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# Miscellaneous Communications

By
James Anderson

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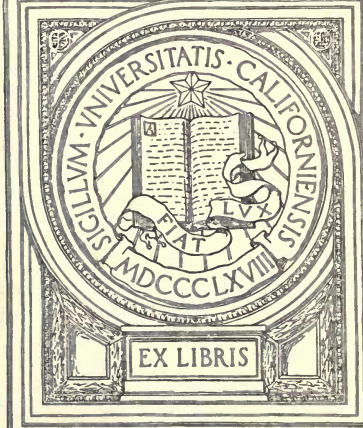

*MISCELLANEOUS*

# COMMUNICATIONS,

PUBLISHED BY


*JAMES ANDERSON,*

M. D. AND A. M.

PHYSICIAN GENERAL.

*Fellow of the Royal Society of Edinburgh—Of the American Philosophical Society at Philadelphia—and Member of the Society of Planters, of*

St HELENA.

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## To JAMES ANDERSON, Esquire,

*Physician General.*

SIR,

I AM directed by Colonel Braithwaite to inclose to you a copy of a letter from him to Government, which accompanied reports of the Officers commanding Cavalry Stations (Major Stevenson excepted) relative to your proposal for the cultivation of the Bastard Cedar.

WALTER WILSON, Secretary.

*Head Quarters, March 13th, 1794.*

## To the Hon. SIR CHARLES OAKELEY, Bart.

*Governor in Council.*

HONORABLE SIR,

I HAVE been thus long prevented from replying to a letter of Mr. Secretary Jackson's, of the 24th of January, enclosing a copy of a letter from the Physician General, recommending the cultivation of the bastard Cedar Tree, at the Cavalry Cantonments, for the feeding horses, waiting for the reports from the several Commanding Officers of the Cavalry Regiments, and am now unwilling longer to delay laying the result before your Honorable Board, although I have not as yet received a reply from Major Stevenson, which I attribute to this extreme ill state of health.

I imagine that the four letters, of which I have now the honor to enclose copies, will suffice to enable government to form a judgment (viz.) one from Colonel Floyd, one from Major Younge, one from Major Pater, and one from Major Orr.

These gentleman, in general, seem to think the measure will be of great utility, and I think, although the subject of the expence



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has not been fully gone into, that sufficient has been said to enable government to form a very near guess what expence will attend the causing five such Plantations to be made, namely, one at each Cavalry station—and I am of opinion that the expence will be warranted by introducing through these means generally, the cultivation of a tree which is stated to afford such excellent food for cattle, by which, no doubt, agriculture will be much assisted; and I will own to you that I look more to such general advantage, to be derived from it, than to its particular utility in affording food for horses, and that for a reason which I am surprized has not occurred to any of those Officers, whose letters I have now the honor to enclose, and that is (taking it for granted that it is good and wholesome food for horses,) whether it is a wise measure, to accustom the horses in peace time, at their Cantonments, to a very sweet and nutritious food, which cannot by any means be carried to the field with them, as the sudden change of diet, and particularly from a rich succulent food, such as this is described to be, may occasion them to fall off, and become so weak, as not to recover their strength again during the campaign, which appears to me a consideration deserving of the most serious attention.

The situation I now hold, has caused me to think it a duty incumbent on me to state what may materially affect the service. I am nevertheless a great advocate for introducing the growth of these trees, on the general principle of their affording nourishment for cattle; and think Doctor Anderson has great merit in starting the subject, and as the Officers who have written on the subject all appear willing and desirous to superintend the cultivation, I cannot but recommend that the Plantations should be made.

JOHN BRAITHWAITE,

A true Copy, *(signed)* WALTER WILSON, SECRETARY.

*Military Head Quarters, Madras, March 12th,* 1795.

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## To JAMES ANDERSON, ESQUIRE,

I OUGHT to have acknowledged before now the receipt of your books, and of the plants you have been so good as to send me; I hope that the Jamaica Plant will do well here, as its foliage would be a great blessing in this parched country.

Although

Although I have not done myself the honor of writing to you before, I have not been an inattentive, nor an indifferent spectator, of the great and laudable exertions you have made to serve your country, and I now heartily rejoice to learn that you have succeeded to a degree that could not have been expected.

I wish I could give you a similar account of the improvements of this side of India; but we have hitherto had no person like you, to remove our prejudices, nor to stimulate our exertions; a little indeed has been done in Salsette. A few years ago, I procured two or three hundred acres of land on that Island, for the purpose of making trials of several kinds of culture: Mr. Stewart, whom you have seen at Madras, has been permitted by this government to reside there, and we have now a crop of sugar cane in great perfection. We find coffee and some other articles, answer very well, but we have hitherto not succeeded with indigo.

I should be extremely obliged to you to send me an account of your method at Madras of preparing chunam for buildings, terraces, tanks, &c. for I understand you excel us very much in these works; I believe that the chunam that you use is no better than what we have here, nor perhaps so good as that we import from Arabia. The difference therefore must arise from the ingredients that you mix with it, or, in some degree, from the method of working it; you will do me a very great favor if you will send a specimen of all the substances that you put into the chunam, and their history, as far as it is known. It appears to me, from whatever I have seen here, that the art of the Indians consists merely in producing an acid similar to the acid of sugar, which unites with the lime, and forms a compound superior to selenite in being insoluble in water, and in other respects.

I hope you will excuse me for the trouble that I have ventured to put you to, and I beg, as soon as is convenient, that you will favor me with an answer.

H. SCOTT.

*Bombay, October 24th, 1793.*

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## TO DOCTOR SCOTT, BOMBAY.

I AM favored with your letter of October 24th, which gives me much pleasure, as the commencement you have made will no doubt be extended to the countries lately ceded by Tippoo, where in a lower latitude you will experience less difference of heat and cold, and thereby carry on the culture of tropical productions

duſtions with more eaſe than on Salſette, as well as that your poſſeſſions there are more extenſive.

The only nicety I know, in the culture of indigo, is to ſow it at the commencement of the ſeaſon of heavy dews falling, which here is the month of January, as by this means the plant is preſerved during its tender ſtate; but no doubt the ſeaſons muſt be very different on the Malabar Coaſt, where the heavy rains which are always hurtful to indigo fall in the S. W. Monſoon when the ſun is in its northern declination.

I ſhall ſoon ſend you more ſeeds of the baſtard Cedar of Jamaica, which will very well reward every one who rears it in theſe parched countries, in the feeding and preſervation of their cattle.

I encloſe a memorandum left by my friend Colonel Floyd, who is very deſirous of getting the kind of horſe from Arabia, of which he has given an account; in obtaining which, if you can give us any aſſiſtance, it will lay both him and me under a very great obligation.

I likewiſe ſend anſwers to your queries about chunam, which I hope will prove ſatisfactory and applicable to uſe, and will ſend you a copy of my farther Public Correſpondence, as ſoon as it returns from the Preſs.

And am, DEAR SIR, Your very obedient Servant,

JAMES ANDERSON.

*Fort St. George, January 27th*, 1794.

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MEMORANDUM FOR DOCTOR SCOTT, AT COLONEL FLOYD'S REQUEST.

HE wiſhes to provide an Arabian horſe, of the race, called *Cachlani*.—This is ſaid to be preſerved by the Bedouins inhabiting between Buſſora and Syria,—he wiſhes the Horſe to be 4, 5, 6, or 7 years old, of the largeſt ſize, and ſtrongeſt make, and if poſſible to procure a certificate of his Breed.—The hiſtory of the Cachlani race, or even fables of their origin.

Colonel Floyd would go as far as 500 or even 1000 Pagodas, for an unqueſtionable fine young horſe, of an age fit to ride, of this breed; and would prefer ſuch an one as the Arabians themſelves eſteem.

ANSWERS

## ANSWERS to DOCTOR SCOTT's QUERIES, REGARDING CHUNAM, &c.

*Question 1st.*—The chunam here is found in low lands, and in small detached pieces, never as in Europe, in rocks, or on high grounds.

Is the same the case at Madras? what appears to be the reason of this in tropical countries?

*Answer 1st.*—The chunam here is found in the same manner, and chiefly collected from the ploughed fields, although we have likewise great strata's of shell marble.

There is nothing in this peculiar to tropical countries, further than as they are more favorable to animalization the means by which nature operates the separation of calcarious earth from the general mass.

*Question 2d.*—Have you any chalk?

*Answer 2d.*—I ac Lunæ, which is the matrix of diamond here, is the nearest approach that I have seen to chalk?

*Question 3d.*—What ingredients are added in different works, to your chunam, and in what proportions? by what rule is it ascertained that the infusion of these ingredients is in proper proportion to the chunam?

*Answer 3d.*—One parrah, about a bushel, of chunam, well mixed with two parrahs of coarse sand, by beating, and water added, till it is of the consistence of a paste, is all the preparation it receives till it is brought to the bricklayers, who have pots of water standing by them, in which an eighth part of as much jaggery (coarse sugar) is dissolved, that is to say, a pound of sugar to a gallon of water.

With this sugar and water, the paste, or mortar is mixed with only two or three strokes of the trowel, and more of the sugar and water added, till it is rendered so liquid as to run into, and fill up all the chinks and crevices of the building, when another course of bricks is laid, and the application of the mortar again repeated, and so on alternately, till the wall or building is compleated.

For this kind of work and for the quantity of lime abovementioned, about ten pollums (the pollum ten pagodas weight) of sugar is commonly used.

A wall so constructed, is afterwards covered over with a coat of what is called coarse chunam; for which one parrah of chunam is mixed by beating as before, with a stick resembling the

Roman

Roman pilum, with an equal quantity of coarſe ſand, in the application of which five pollum of ſugar is uſed.

To render the face of the wall perfectly even, and prepare it for receiving the poliſhed coat, a ſecond covering is applied, conſiſting of four parrah of fine chunam, mixed by grinding on a granite ſlab, with one parrah of white ſand.

The ſand is previouſly ſifted, to prevent the mixture of ſmall ſtones, no jaggery is mixed with this, or any addition but water, which ſhould be perfectly ſweet.

Laſt of all, the fine chunam, to receive a poliſh, is applied; for which the ſhells of ſhell fiſh are preferred, in the proportion of ſix parrahs ground very fine on a granite ſlab with a granite roller, to one parrah of the pureſt white chryſtalline ſand, till by the addition of water they become a ſmooth uniform paſte.

To this, the following ingredients are added, while the paſte is ſpreading on the wall. For twenty feet ſquare, tyre (turned milk) one meaſure or three pints, four eggs, five pollum of ghee or butter, and three pollum of ſoap ſtone (Lapis Ollaris) powdered and mixed with the hand, as they are uſed; they reckon that the work poliſhes better likewiſe when two or three pollum of the ſoap ſtone has been previouſly mixed with the paſte.

The fine chunam now applied, muſt be well rubbed with poliſhed ſteel trowels for a conſiderable time, the more labour that is beſtowed, the more beautiful it becomes: the water that exudes from it (and it will ſweat like a perſon in the hot bath) muſt be wiped off, and if any cracks appear, the trowel muſt be again diligently applied; it will continue to ſweat for ſome days according to the ſtate of the weather, and the water ſhould be carefully wiped off every morning with clean cloths, otherwiſe the colour will be tarniſhed.

It is now duſted with powdered ſoap ſtone in a linen bag, and the laſt poliſh given by rubbing with pieces of poliſhed granite, or petroſilix; in ſhort this labor continues, while there is any exudation of moiſture, and until the work is perfectly conſolidated.

*Queſtion 4th.*—Is quick-lime preferred to lime that has been kept for ſome time, provided the latter continues in a ſubtle powder?

*Anſwer 4th.*—They pay no regard to this, and for all the purpoſes I have mentioned the lime is generally brought hot from the kiln before it is compleatly ſlacked.

*Queſtion 5th.*—Where do you get the ſand that you mix with the lime? muſt it be pure ſilicious earth, or do they uſe ſuch as is mixed with ſhells, calcarious earth, or alumine? are they in the habit of uſing powdered brick, inſtead of ſand?

*Anſwer*

*Anſwer 5th.*—For building, they uſe the ſand of any ſtream where the water is ſweet; which hereabouts is felt ſpar and quartz, being fragments of the granite rock of which the Peninſula chiefly conſiſts; but for mixture with the poliſhed chunam, we have a Bank at Trivatore, on the ſea Beach, of pure chryſtalline white ſand.

All ſaliae matter, except ſugar, and the other ingredients I have mentioned, are deemed hurtful. Our walls are corroded here by the ſpray of the ſea, and vapours from the earth, where the ſoil is aluminous.

They make terraces of broken bricks or gravel, and when the latter is ſilicious, ſuch as may be found in the beds of rivers, the terrace will endure for ages. Bricks that have been throughly burned, and reduced to powder, anſwer as well as any ſand, in the mixture of lime for building.

To lay a terrace, one parrah of broken bricks, one parrah of chunam, and five pollums of jaggary, diſſolved in good water, and mixed together, is called jelly.

Lay this jelly to the thickneſs you require; for the roof of a houſe or choultry, it is commonly not leſs than ſix or more than twelve inches thick, and beat it with the trowel till it comes even on the ſurface, and then rub it with wooden trowels, and frequently moiſten it with jaggary water ſprinkled upon it (or poured) for ſeveral days, continuing the rubbing till it is ſufficiently conſolidated.

This is afterwards coarſe chunamed, with a mixture in the following proportions; one parrah of chunam, one and a half parrah of ſand, and five pollum of jaggary, and laſtly fine chunamed, either for terrace work, or to contain water, as a tank or pond.—Grind four parrahs of chunam, and one parrah of chryſtalline ſand together, and mix with the maſs five eggs, three pints of tyre, and five pollum of ghee.

N. B. I have found oil of ſeſamum, and other expreſſed oils, anſwer as well as ghee.

While this mixture is applying, five pollum of the lapis ollaris (Balpum of the Tamuls) is duſted upon it and worked into it with the trowel—the poliſhing is finiſhed as beforementioned.

It is worthy of remark, that where a wall is conſtructed of great thickneſs, and faced with ſtone, which leaves great and irregular inequalities on the inſide, they fill up the heart of the wall by pouring in the abovementioned jelly, an art probably imported into Europe by the Romans; but loſt again by the barbarous tribes who ſubverted the Empire; as I have ſeen a place on the water of Leith,

in

in Mid Lothain, called Lennox Caſtle, on the eſtate of John Scott, of Millenie, which has been conſtructed in the ſame manner.

The theory of the whole ſubject however, may be collected from the experiments of the Honorable Mr. Cavendiſh, on limeſtone, publiſhed in the philoſophical tranſactions; and the ſubject farther elucidated by Doctor Black, in his reſearches into the nature of lime-water.

The art being preſerved here, is a proof, either that this country has never been entirely conquered, or that the Conquerors have been leſs ſavage than our Progenitors,—much however may be attributed to the antiquity and fixture of caſts amongſt the Indians, in accounting for the preſervation of their manners, cuſtoms and arts.

*Queſtion 6th.*—In what proportions do they mix the chunam and ſand together?

*Anſwer 6th.*—Vide anſwers 3d, and 5th.

*Queſtion 7th.*—What is the reaſon of buildings decaying ſo ſoon in this country, in which lime has been uſed as in Europe, without the addition of the Indian ingredients?

*Anſwer 7th.*—Quick-lime is ſo powerful an abſorbent, it cannot ceaſe to act till it is ſaturated, and the pabulum is ſupplied more directly by mixing the Indian ingredients, than the external contact of the atmoſphere will admit, in the European method, by the abſorption of fixed air.

*Queſtion 8th.*—Do you make any particular addition when you form works that ſalt or freſh water is immediately to cover?

*Anſwer 8th.*—Nothing more than that an encreaſe of the ingredients is held advantageous in all caſes, eſpecially in works that are to lye under water.

*Queſtion 9th.*—Do they wet the mixture of lime and ſand for ſome time previouſly to the addition of the other ingredients?

*Anſwer 9th.*—The mixture of lime and ſand is only moiſtened with water while it is beat in a trough of granite ſlabs, with the pilum of wood, ſometimes ſhod with iron; an operation that may laſt ſome hours, and the mixture is generally removed in wicker baſkets, to the workmen, as ſoon as it is judged to be ſufficiently beaten.—But I have known the fine chunam mixture of lime and ſand, preſerved moiſt and ſoft, under water in a tank, for ſeveral days, till ſuch time as the wall where it was intended to be laid was eſteemed thoroughly dry, and afterwards applied as effectually as if it had been recently made.

EXTRACT

EXTRACT OF A LETTER FROM JOHN BRISTOW, ESQ.

Dated, May 22, 1794.

To JOSIAS DU PRE PORCHER, E Q.

I WAS favored with the duplicate of your letter of the 9th April last, the original having miscarried, and immediately applied to Sir John Shore, respecting the shawl goats. Sir John expressed his great respect for Doctor Anderson's character, and would have been extremely happy to comply with his request, but the goats were procured by order of the Directors, for the purpose of being sent to Sir John Sinclair; their arrival here has been reported home, and the Court advised that they would be dispatched to England by the first ships which may sail in the proper season; under these circumstances, Sir John Shore thought he could not with propriety intrust the delivery of them to Sir John Sinclair, to any other hands than the Court of Directors. Colonel John Murray, and other gentlemen here, have been competitors with Doctor Anderson, for the honor of being the channel for presenting the goats to Sir John Sinclair, and were refused on similar grounds; I trust this explanation will prove satisfactory to Doctor Anderson.

Some of the goats have died; but to compensate three deaths, more have been born of the genuine breed; so that I hope a sufficient stock will be preserved to make the intended experiment in Scotland.

In consequence of my residence at the court of Owde, I have numerous acquaintances in the upper provinces, and will endeavour to procure some more goats, if I succeed they shall be sent to Doctor Anderson.

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## To SIR JOHN SINCLAIR, BART.

BY Captain Curtis, of the Swallow Packet, I sent you a ram, with six horns, from Mount Ararat; and by Captain Chatfield, of the Rodney, another of the same breed, with four horns, which I hope you have safely received as the third, likewise presented me by Shamir Sultaun, is since dead, but this is of less consequence, as I now see by Truffier's habitable world, that Pallas found this many horned breed amongst the Tartars in Siberia, so that in case they should appear an object worthy the attention of your society, they, may be more readily procured by the way of St. Petersbourgh. In my last letter of February 20th, I mentioned on the information of Doctor Roxburgh, the arrival of 18

shawl goats at the botanical garden in Calcutta, which I conceived might have been procured for you at the instance of Colonel Kyd, at any rate I was convinced that the death of this gentleman prevented proper notice being taken, otherwise they would have gone on the Rodney, or some of the ships which sailed at that time.

As the preservation of these goats appeared to me an object most worthy the attention of your pursuits; I requested Mr. Porcher of this place, to sollicit Mr. Bristow, that they might not remain longer in the hot climate of Bengal, than necessity obliged; and have the honor to enclose a copy of his answer, which I hope will prove satisfactory.

JAMES ANDERSON.

*Fort St. George, June 11th, 1794.*

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## To JAMES ANDERSON, Esquire.

THE Minister of this Court, Azeem ul Omrah, having heard of the progress you have already made in the rearing of Silk-worms, and of the extensive benefits that are likely to accrue from the further prosecution of your design, is extremely anxious to introduce through your means so valuable and beneficial a branch of manufacture as the silk one is likely to prove, into his master's dominions.

With this view he is desirous of procuring the eggs of the worm, together with every possible information on so extensive and interesting a subject; and as he is well aware that the superintendance of a person well versed in the various branches of the business, would tend greatly to accelerate as well as facilitate the undertaking, he has requested our resident at this court, to use his endeavours to procure a competent person to whom every possible encouragement will not fail of being given.

As my brother has not the happiness of a personal acquaintance with you, I have readily undertaken to supply this deficiency, under conviction that your complaisance, and active benevolence will not only induce a ready compliance on your part, (as far as may lie in your power) with the above requests; but also lead you to see and approve of the motives that actuate me to become the channel of them.

Two skains of raw Silk, made at Vellore, and now in my possession

poſſeſſion, have been much admired here.—The Mulburry tree thrives very well, and at the ſame time is, I believe, tolerably abundant, in this country.

JAMES ACHILLES KIRKPETRICK.

*Beder, 2d July, 94.*

## To CAPT. JAMES ACHILLES KIRKPATRICK.

I am very happy to be acquainted by you, for whom I have a ſincere regard, that there appears a diſpoſition at the Court of Hydrabad, to introduce the Silk manufacture, the ſucceſs of which in any climate of Hindoſtan cannot be doubtful; and Beder, where you now are, appearing the native country of the vine, muſt be favorable to the mulberry.

For the moſt adequate information in my power, I encloſe a copy of all that I have publiſhed on the ſubject, and will not only ſuppy you by the tappal, with eggs myſelf, but likewiſe deſire Mr. Wilſon at Guntoor, who is ſo much nearer, to rear and forward you a breed.

Could you perſuade Capt. Robt. Mackay, who is with Major Roberts's Detachment, to pay you a viſit, he can explain any thing that may appear obſcure in my publications, and is able to aſſiſt in ſpeedily arranging every thing needful for rearing the worms, and laying out plantations of mulberry.—The two ſkains of Silk you ſo much admire, muſt be of his manufacture, while he was on duty at the Fort of Vellore.

I can only ſay farther, that if you will take the trouble to ſend any of the people here, who are to be employed in this buſineſs, I will order my ſervants to ſhow them the whole proceſs, as it is carried on in my garden.

JAS. ANDERSON.

*Fort St. George, 16th July, 1794.*

## To CAPTAIN PAKENHAM, of HIS MAJESTY'S SHIP RESISTANCE.

I HAVE the pleaſure to ſend you three entire copies of my publications for the improvement of this country, in hopes that you will do me the honor to encloſe one of them

to the Bishop of Landaff, who I believe is the learned and elegant Dr. Watson; another to Mr. More, Secretary to the Society for the encouragement of Arts, and that the third may contribute to your own amusement, in the fine weather of the Indian Seas.

In case you write to these gentlemen, as I wish you may, let them know that West India Plants will thrive on any part of this coast, and I have this morning received a letter from Captain Read Collector of Barra-mall, of which the following is an extract; which you will be so good as communicate to them, as a commencement to the introduction of the productions of the high Latitudes.

"Allow me to trouble you for as many more seeds, to give "Doctor Ord, who has been so good to take charge of a "small, but seemingly excellent spot, for the cultivation of "Exotic Plants; on the top of the Rock of Kistnagurry, which "may be sufficiently supplied with water all the year round."

As you have so attentively made an offer of your services, and expect to return here in December, which is the most favorable season for putting plants in the ground, besides Cloves and Nutmegs, which we have never yet been able to obtain; I have taken the liberty to enclose a list, any of which will be acceptable from the countries which you may visit.

JAS. ANDERSON.

*Fort St. George, August 13th, 1795.*

## TO DOCTOR ANDERSON.

I have had much pleasure since my arrival here, in visiting the mulberry plantation in this neighbourhood, which is in a very flourishing way, tho' not so extensive as I expected to find it; the trees are so luxuriant, that they will yield several thousand cuttings, which might be very advantageously planted, at this season, as the hot land winds are now over, and we may expect constant refreshing showers for some time to come; no place is more adapted for the extention of Mulberry plantations than Guntoor; the soil seems favorable to vegetation in general, and there are abundance of wells, from which a plentiful supply of water can be had at all times of the year.

I should think myself wanting in that respect which I owe you, did I not step forward to offer my services to superintend the plantations here (which were originally under the care of my predecessor, (Mr. Mackenzie) and to extend them as far as may be thought necessary; I am the rather stimulated to this, seeing

seeing that so many of my cotemporaries, professional men, have had this office intrusted to their care; and should feel much hurt, were it supposed I was not equally zealous to promote a matter of so much public utility.

I would not have addressed you on this subject at present, knowing that you had declined any farther interference in the business, were I not enclined to hope, that you may at a more favorable period re-assume your correspondence with government on this subject; and ultimately complete what your indefatigable exertions have already so far effected.

I have read with much attention all your late publications, on the introduction of the Silk manufacture, and the cultivation of the bastard cedar tree, sugar cane, &c. &c. and should be much gratified, were it in my power to aid you in your laudable endeavours to render the propagation of these plants general throughout the country; I am much inclined to think the sugar cane would thrive well here; the soil is a light red earth, with a mixture of loame; in some parts water is plentiful and the villages abound with rich manure.

The seed of the Bastard Cedar, which you have already sent up here has not succeeded under Major Wynch and Mr. Ram; I would have much pleasure in giving it a trial, and think the season now more favorable to it than it was two months ago.

I have made a purchase of a piece of ground, which it is my intention to form into a garden, where I shall plant all sorts of plants, indiginous and exotic, such as country greens, cabbages, turnips &c. and shall be very happy to give the bastard cedar a place amongst them, if you will favor me with a few of the cones by the Tappal.

GEORGE WILSON.

*Guntoor, July 18th, 1794.*

## TO DOCTOR ANDERSON, MADRAS,

I received your obliging letter, and was much pleased with the account of your method of using chunam; it is much more simple than ours, and for terraces it appears to be preferable in every respect, whether it is also to be preferred for tanks and aqueducts, I cannot take upon me to judge.

I should perhaps have told you in my former letter, that I was anxious for information on the subject of chunam works, as Sir Joseph

Joſeph Banks has expreſſed a great deſire to me, to be made acquainted with the art, I have written him all that I could learn on that ſubject; I had unfortunately ſent away my letter to him before yours came to hand, for I found that I had been telling him ſome things that were not ſtrictly true: I told him for inſtance that our method at Bombay was with little variation the practice all over India, I judged it therefore right to ſend him a copy of your account, which will be very acceptable to him; of this I hope you cannot diſapprove.

I ſent Colonel Floyd's Memorandum to my freind Mr. Small, Surgeon of the Company's Factory at Grain.—In a letter which I got the other day, dated June 24th, he ſays—" I ſhall be happy to " do what I am able to fufil Doctor Anderſon's wiſhes, I have at " preſent a horſe that would highly gratify him, if the circumſtance " of his being a gelding is not againſt him; he is two years and a " half old, 14 hands and an inch high, of a roan colour—a more " highly bred animal has not been ſeen in this part of the world; he " is of the true *Chylani* or *Kylani* breed, as the Arabs call it, " which I take to be the *Cochlani* of *Neibhur*, as the Bedowin Arabs " here have never heard the name cochlane, I purchaſed two horſes " from the Bedowins in the winter, when a great Hord of them " were in this neighbourhood.—The other horſe is alſo of a very " high breed, a guelding, he is four years old, of a ſorrel colour, and " large ſize, 15 hands and an inch high: he is of a ſtrong make and " runs very faſt, I think he would be liked by an officer in the " field.—I propoſe to ſend you them both to Bombay, if I can pro- " cure a paſſage for them, where you may be determined by the beſt " judges whether it is worth while to ſend one or both of them to " Doctor Anderſon."—I ſhall be glad to hear from you, reſpecting thoſe horſes; and whether I can do any thing farther for your friend Colonel Floyd; I am no kind of judge of horſes myſelf, nor ſhall I ſend them till I hear farther from you, and receive the approbation of the judges here—on this occaſion I am convinced that Mr. Small will not wiſh to make any thing by his horſes.

We have this ſeaſon two conſiderable and flouriſhing plantations of ſugar-cane in Salſette, and we have reaſon to believe that the iſland of Jamica is not better fitted for that produce.

I wiſh to get for Mr. Rivett, Chief of Salſette, ſome ſeeds of the Mauritius Cotton; we have heard that a plantation of it has been lately attempted at Madras, with great appearance of advantage, and we wiſh to try it here.

We have lately found on the hills of Salſete plenty of the Nerium, that gives indigo; as a great part of the iſland is moun-

Mountainous and unfit for any other cultivation, we are thinking of raising that plant on a large scale; I am aware that it does not yeld the colouring matter like the indigo-fera, by fermentation; but we have on our hills plenty of firewood for the trouble of collecting it: you would much oblige me by letting me know what success has attended the attempts to manufacture it in the Carnatic, whether they have cultivated it, or only collected such as is found wild? and lastely on what plan they have constructed works for such a manufacture, with warm water?

I am still obliged to trouble you farther, but I hope the motive will excuse me,—you know that Surat is one of the most populous towns in india, and contains a great number of Parsees; these people from the border of the Caspian, still retain much of the vigor of a more northern land, they are poor and industrious, and being free from many of the prejudices of the Gentoos, they soon embrace any employment by which they can improve their condition.

Mr. Cherry of the Civil Service, now stationed at Surat, has expressed to me a wish of teaching the Parsees to raise the silk worm, as you have done in the Carnatic; he has written to Bengal for the worms, but has never been able to procure any from thence; can this be the consequence of a wretched policy, which prefers one spot of ground and one set of men, to the general welfare of mankind?

Mr. Cherry is a man well qualified by his abilities and from his situation, to make such a scheme succeed—we shall be greatly obliged to you for your opinion, on this subject; and for the silk worms, if you approve of a trial of them.

H. SCOTT.

*Bombay 25th August*, 1794.

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## To JAMES ANDERSON, Esquire.

I SHOULD long ere this have acknowledged the receipt of your obliging letter of the 16th ultimo, together with its valuable enclosures, had not the daily expectation of the eggs you announced, induced me to defer my acknowledgements till the period of their arrival.

My brother has communicated to the minister your kind offer of assistance, to any people he may send to Madras, for the

neceſſary purpoſe of acquiring a competent knowledge of the various branches of the ſilk buſineſs; and he is accordingly looking out for an intelligent capable perſon, to depute to you, on that errand—he has likewiſe iſſued directions for the cultivation of the plant, in various parts of the country.

The two ſkains of ſilk ſo much admired here, were, as you gueſſed, ſent me by Captain Mackay, from whom we expect to derive material aſſiſtance, whenever a convenient opportunity may offer for his paying us a viſit; but this, independant of other circumſtances, our diſtance precludes, at preſent.

The fruit of all the mulberry trees, I have ſeen here, is full two inches long, but by no means proportionably thick—pray is this kind of mulberry tree favorable to the ſilk worm? The late Doctor Binny, and ſeveral other gentlemen received, I underſtand, large ſupplies of ſlips from Hydrabad.

JAMES ACHILLES KIRKPATRICK.

*Beder, Auguſt 17th*, 1794.

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## To CAPTAIN JAMES ACHILLES KIRKPATRICK.

I am favored with your letter of the 17th Ultimo, and conſider the ſubject of too much importance to delay a moment writing in anſwer.

It will be very fortunate if the miniſter takes care to ſee his orders for extending the mulberry plantations put in execution; for this once eſtabliſhed all the reſt is eaſy—Women and Children ſhould be immediately intertained in ſufficient numbers, to take care of as many worms, as you may be able to find leaves to feed.

The filature may afterwards be eſtabliſhed by abundance of hands from hence, as ſeven able workmen are juſt landed from bengal.

There are no Experiments neceſſary; the buſineſs requires only to be put in execution, and I will ſupply you with every thing needful, to accompliſh ſo great a purpoſe, with pleaſure.

The mulberry, with fruit two inches in length is the great China Paper Mulberry, and moſt worthy your attention,

tion, as they may be reared as ſtandards, and will yield abundance of ſucculent leaves, without farther care, whereas the other Mulberry, which you have at Hydrabad, of which Captain Kennaway ſent Mr. Binny a great many ſlips, is very inferior, the leaves ſoon getting hard and woody and unfit for the uſe of the worms; encourage the Miniſter, therefore to direct his attention to the culture of that beſt kind.

The Bengal workmen, in paſſing through my garden on their way to Vellout declared with one voice, that my little eſtabliſhment of ſilk was perfect in all its parts, and during two days that they remained I could only hear of one thing which they objected to: obſerving my people gathering the leaves at noon, They very ſenſibly pointed out the flaccid ſtate of the leaves, after the influence of the ſun was powerful, on which account I have directed the leaves to be gathered at day break.

JAMES ANDERSON.

*Fort St. George, 2d September*, 1794.

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## To JOHN LAIRD, Esq.

### PRESIDENT OF THE HOSPITAL BOARD, CALCUTTA.

THIS will be delivered you by Mr. Sonnerat, who is about to leave this place for Bengal.

Mr. Sonnerat is ſo well known, in the literary world, by his valuable publications, it will be needleſs for me to ſay more, than that he is a perſon for whom I entertain a ſincere regard, and will eſteem the obligation of your ſhowing him every countenance and attention in your power, by introducing him to the notice and acquaintance of Sir John Shore; or ſuch perſons as may be able to promote the favorite purſuit of *Natural Hiſtory*, and *Agriculture*, in which he follows the ſteps of his uncle, the great Poivre.

JAS. ANDERSON.

*Fort St. George, 6th September*, 1794.

## To JAMES ANDERSON, Esq.

I have the satisfaction of transmitting you a copy of my translation of the Sanscrita Almanac, for the present year Aunanda.

This copy is executed by some unskilful writers, yet having examined and marked the same, word for word, from the beginning to the end, the readers may read it over without hesitation, by retaining in memory the marginal notes and the contents of the prefatory letter to my said translation.

Be it known to your goodness, that in the beginning of the Sanscrita and Zamilion almanacks (written upon palmar leaves) the lord of the year and the positional influence of the planets, and also the image of the God of Tekupha, are stated by way of preambles which I have not yet translated, for want of leisure, but shall send to you with an explanation of the technical words occurring in my translation of the Sanscrita Almanac.

T. MOOTIAH.

*22d September*, 1794.

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## To JAMES ANDERSON, Esq.

I WAS this morning favored with your packet of silk worm eggs in perfect order, and have the satisfaction to inform you that since the commencement of this business, nothing has given me more pleasure than the net you made for feeding the silk worms, from the expence and labour which must be saved by the use of it, which the Bengal people, evidently prepossessed, condemned, still forced into the acknowledgement of its utility by my useing it in the care of some worms I took under my own charge, but to do the people justice, though they found fault with it at first, they now seem much pleased with it, and in my opinion it must lessen the charges attending the care of the silk worms at least 30, if not 50 per cent.

BOSWALL PARKISON.

*Vellout, September 27th*, 1794.

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## To Mr. BOSWALL PARKISON.

I AM favored with your letter of the 27th, and am not surprised at the opposition of the Bengal workmen to the use of nets

nets for shifting the worms from their litter, as it is probable the worms are attended by so many people in that country, that any expedient to lessen the labour has never appeared necessary, and it must be allowed that like all the world they are wedded to what they have been accustomed to, for when I first erected the improved reels, my Bengal people insisted that every one of them would require two men at the handle to turn them, but when they afterwards saw that a child who could only reach the handle turned the reel, with three times as much velocity as the reels used in Bengal could be turned, and that the quality of the silk was capable of bearing the rapid motion, the Bengal workmen seized them, and would never afterwards work on any other.

In Bengal the rearing of the worms is altogether the business of the country people; the houses are small, and in close moist weather the air is liable to be tainted, so as to kill sometimes the worms in a whole district in a single night, which they ascribe to the machination of the devil, so that it is probable they can be of little use to you in rearing the worms; but when you get so far as to wind silk, you will find their expertness, arrangement, and method practised at the filatures in Bengal of infinite consequence.

JAMES ANDERSON,

*Fort St. George, September 30th*, 1795.

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## To DOCTOR ANDERSON, P. G.

YOU have greatly obliged me by your favor of the 18th instant enclosing the copy of a letter from Mr. Scott, at Bombay, which is throughout curious, but contains one paragraph particularly interesting to me, extracted from a letter of Mr. Small, surgeon to the Company's Factory at Graine, on the subject of Arabian horses, of which I profess myself a very great admirer.

With regard to the horses, this has all the appearance of being the right road, and it is probable Mr. Small has the most favorable opportunities of procuring some of the best.

I do not wish to have a gelding and am desirous of having one or two horses old enough for immediate use—that is not under four years old, nor do I wish to have one upwards of eight years old.—These horses should be of the greatest strength that can be found, combined with activity, and as I know the Ara-

bian horſes are ſeldom of a large ſize, I ſhould be well ſatisfied with horſes of fourteen hands and three inches, or fourteen hands two inches high.

If a horſe of extraordinary power ſhould be found only fourteen hands one inch high, I ſhould ſtill be ſatisfied——colour immaterial.

The beſt Arabian horſe I ever ſaw was exactly fourteen hands two inches, he belonged to Count Alexis Orlow, who received him as a preſent from the famous Ali Bey,—Count Orlow received his Pedegree along with him, he was warranted of the true Cachlani race—thus Count Orlow pronounced it when he ſpoke of him in Italian; he called him Cochlianer, when he ſpoke in German—Niebhur, I ſee calls the race Cochlani.

I made an enquiry of your friend Doctor Ruſſell, when I had the good fortune to meet him at your houſe ſome years ago, as he had reſided at Aleppo, concerning this race of horſes, and he took the trouble to ſearch his notes on the ſubject; he told me the moſt famous race of horſes among the Arabs, was by them called Cocklyon, and I conclude after making allowance for arbitrary orthography, and ſomething for difference of pronounciation; the Cochlani, Kylani, or Cocklyon, to be the ſame, or at leaſt to mean the ſame.

The Arabians acknowledge one race of their horſes to excel all others—Count Orlow communicated to me their hiſtory or fable of this race; which according to them drew its origin from a horſe of divine beauty that aroſe from the ſea, and covered a mare of very great fame, I think it was ſaid this horſe was white.

The temper of the Arabian horſes is one of their valuable qualities, in which they greatly excel, ſo that they never bite, kick, ſtart, or quarrel, but are the gentleſt of animals, poſſeſſing however the moſt fiery ſpirit when called upon and urged to exertion, and this ſpirit is never known to flag, as happens to other very promiſing horſes—however the bottom of Arabian horſes in general is very remarkable, and many of them ſeem to be almoſt incapable of fatigue.

I have heard that the Arabs eſteem a quality in their horſes, very valuable to them, though of no uſe in Europe—they ſay that their horſes will travel ſeveral days without water, and almoſt without food.

It would be highly intereſting if Mr. Small would make ſome enquiry into the hiſtory or even fable of the Arabian horſes, and collect ſome of their accounts of the performances of their famous

horſes;

horſes; their ſpeed, ſpace gone over, length of time without water, or food, their manner of feeding, airing, and exerciſing their horſes.

It would certainly be doing me a very eſſential ſervice, if by your influence and that of Mr. Scott, Mr. Small could be prevailed upon to procure me one or two horſes of this breed, ſo much eſteemed by the Arabs, of ſufficient ſtrength to carry me and my tackle; I ſhould pay with pleaſure the ſum Mr. Small named up to five hundred, or even a thouſand pagodas, for a horſe thought by the Arabs to be worth it.

I have no doubt if Mr. Small was inclined to ſpeculate, but he would receive very high prices for horſes really good, ſent to Madras for ſale,—he would do a great public ſervice if he could find means to procure annually a number of good horſes for the uſe of our cavalry, and I would gladly make known every thing he might be inclined to propoſe on this ſubject,—excuſe my Dear Sir, the liberty I take in troubling you and your friends, ſo much at length, but you ſee to what your known kindneſs expoſes you—my tranſplanted baſtard cedars are thriving prodigiouſly, your young Adanſonias ſhall have a ſpare ſpot.

JOHN FLOYD.

*Trichinopoly, September 28th, 1794.*

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## To DOCTOR WILSON,

AT GUNTOOR.

SOMETIME ago I received a letter from you, regarding a deſire to promote the objects of improvement which I had recommended, but nothing worthy your attention preſenting at the time, I have hitherto found it unneceſſary to trouble you with an anſwer, believing you would be ſatisfied I was not inſenſible to your obliging communication.

The court of Hydrabad having however ſignified a deſire to introduce the ſilk manufacture into their poſſeſſions, induces me to incloſe ſome ſilk worm eggs, ſeeing you muſt be in poſſeſſion of mulberry leaves ſufficient to rear a breed, and forward the produce of the eggs to Captain J. A. Kirkpatrick at Beder, near Hydrabad, which will enſure their getting them in good condition better than I can at this diſtance.

JAMES ANDERSON,

*Fort St. George, September 11th, 1794.*

To

## To DOCTOR ANDERSON, P. G.

*Arcot, October 1st,* 1794.

I HAVE great satisfaction in acquainting you of the very flourishing state of the bastard cedar in the several gardens belonging to the officers of this cantonment, which thrive in a most astonishing manner, and I have not a doubt but in the course of a few months they will be yielding seeds for extending the cultivation of them farther.

As I dedicate my leisure hours solely to the rearing of trees and shrubs, I hope I shall not trespass on your goodness in the requisition of a plant of the bread fruit tree, or any other exotic, you can conveniently spare.

The quantity of rain which has fallen in this part of the country, makes its appearance very beautiful, and should you be induced to make a trip thus far, I shall be very happy, and endeavour to make your stay as agreeable as possible.

WILLIAM YOUNGE.

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## To DOCTOR ANDERSON P. G.

ACCOMPANYING I have the honor of sending the first fruits of our labours for your inspection, the produce of 1000 Cacoons, a compliment due to you as patron of the Manufacture, and beg leave to return my most grateful thanks, in behalf of the concern, for the Filature-men you were so good as to spare us, or our cacoons must have been lost; and you need not be surprized, if I should send you a quantity to reel off, as the fire ruins all our brick-work, which is not yet dry.

A BLACKADDER,

*Mulberry Plantations, near Poonamallee, October 14th,* 1794.

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## To DOCTOR ANDERSON, P. G.

I HAVE taken the liberty to send you four baskets of Cacoons, the produce of my Bungalow at Voyalore, and beg the favor to place them under your direction, to wind up, and dispose of as you may think most proper.—I have great hopes in a short time, to be able to send some white silk cacoons for your inspection.

This

This business has been particularly expensive to me, having engaged in it for the Public good, and the Honble Company's future welfare; I am encouraging others to pursue this laudable undertaking, and have no doubt, there are many that would, could the obstacle of rent be removed; and I am fully persuaded, should this be the case, that the Honble Company would, in after times, be greatly benefited by it; as this would be a sure plan to extend the manufactory upon a large and open scale; and then considerable profit must inevitably succeed, and would handsomely repay the Honble Company for any encouragement they may think proper to give.

VERA PERMALL.

*Madras, 16th October, 1794.*

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## To VERA PERMALL PILLY,

I AM favoured with your letter, and the cacoons, which appear very good, notwithstanding the present wet season is unfavorable to the worms.

As I am sensible of your laudable intentions of encouraging others, I have ordered the cacoons to be wound off, and now send you by the return of your servant, the produce, amounting to eighteen skains, about a pound weight in all, that you may shew those who are disposed to the undertaking, the completion of the work, which I hope will likewise encourage you to establish a Filature of your own, as no great addition to the expences you have already incurred.

You know that after demonstrating the average value of the Company's Lands, cultivated and waste, to be no more than one shilling a cawnie, or eight pence an acre, the Government were pleased to adopt the idea of renting the waste lands at four shillings an acre, no doubt because it would multiply the revenue six fold, and prove a much greater advantage than any manufacture could they so rent it out; but unfortunately since it appeared that their arrangement was only a monstrous scheme of encreasing the rents on paper, no one has come forward to occupy waste Lands.

As they have, however, made a Plantation at Vellout, at the Honourable Company's expence, where they are now winding silk, they will be able more adequately to value the lands.

JAS. ANDERSON.

*Fort St. George, October 16th, 1794.*

To

## TO DOCTOR SCOTT, BOMBAY.

AS soon as I was favored with your letter of August 25th, I encloſed a copy to Colonel Floyd, and have now the pleaſure to forward you his anſwer which, I have no doubt, you will think of importance enough to tranſmit to Mr. Small.

Had I known your wiſh to communicate with Sir Joſeph Banks, I could have ſaid nothing more to the purpoſe regarding chunam, excepting that perhaps the various modes of workmen in obtaining the ſame end, may be conſidered a difference—as, in tempering ſteel, every workman has his own method, although the tempering of ſteel may depend only on one principle—the due proportion of heat; and the inſtantaneous ſaturation of lime, on the application of ſuch ſubſtances as will ſpeedily ſupply the aerial acid, for rendering it mild and fixed.

I might have told you, for example that although the laſt coating of fine chunam, which is always very thin, and little more than a ſurface expoſed to the air, is prepared by mixing it only with pure chryſtalline ſand, yet that I had ſeen ſome workmen mix a ſmall quantity of oil of ſeſamum, and even vinegar, in the preparation.

I might have ſtated, likewiſe, that the work applied to ciſterns and aqueducts, where the foundations are ſecurely laid, is as capable of containing water, as Marble is; and after the work is conſolidated, our Buildings of Brick, being ſtruck with violence ſuch as the blow of a ſledge hammer, will not break in the direction of the cement, but only in the direction of the force.

I have been thus minute, in hopes that the learned Preſident, who has devoted an ample fortune, and the vigor of life, to the moſt commendable uſes of public œconomy may influence all Europe to conſtruct buildings of duration, and enhance the value of our Weſt-Indian Iſlands, by the conſumption of ſugar, for the ſaturation of which, there is great probability the Romans uſed honey, oil, blood, eggs, milk and mucilages, in the conſtruction of their works.

The Nerium Tinctoriam likewiſe grows in great abundance, on all the hills in this Country; and I underſtand, that the Calico Painters, both here, and in the Eaſtern Peninſula, uſe it in their proceſſes.

Doctor Roxburgh told me, that ſome colour which he prepared from it, was valued in Bengal, at ſeven ſhillings and ſix pence the pound.—Mr. Roebuck found, that the colour of it was obtained better by the cold than the hot infuſion, but I do not hear, that any conſiderable plantations of this tree, have ever been

made

made, the latter gentleman having favored me with a drawing and description of his Indigo Works, in this neighbourhood, I have the pleasure to enclose them, for your satisfaction, and think that the Indigo-sera, being more easily collected, and yielding the most brilliant colour, is the only thing of the kind, that will defray the charge of expensive works.

Both the Roebucks are able Chymists, and expert Artists; they have erected a steam Engine, that acts with a force of two tons and a half, for pumping water, and driving the beaters; they have likewise laid cylinders, pierced with holes, in the bottom of the vats, for the transmission of a blast of air; which renders the former practice of beating less necessary, as by exposing innumerable surfaces of the liquor to the air bubbles, a speedier, and more copious deposition of Indigo, than by the beating process, is obtained.

Although I was at the Capture of Surat Castle, in the year 1759, yet having had no opportunity of landing, I know but little of the place; but from what I saw at Bombay, have no doubt that the Parsees compose a considerable part of the population:—The lower classes of the Hindoos, have no repugnance however, to working in silk, and the culture of the Mulberry is exactly the same as the culture of the Suger-cane:—cuttings of the same length may be placed most advantageously, at the same distances; and in ground that is fit to raise a crop of sugar-cane, the Mulberry will arrive at the greatest perfection, for feeding the Silk-worm.

Having had some overtures from Hydrabad, for supplying them with Eggs of this insect, it will be easy, in case this takes place, to transport a breed, by the way of Arungabad and Poonah, to your friends at Surat; and recommend you to request the Resident at Poonah, to plant a few Mulberries in his Garden; for the reception of the monthly Worm; the annual Breed, I shall not fail to send Mr. Cherry, by sea.

JAMES ANDERSON

## To DOCTOR ANDERSON, P. G.

I SHALL be extremely obliged, if you will be so good to send me the original description of the silk manufacture, which I am told, is printed in English and Malabars; and published by you some time ago.

It is the latter only, that I want, for a friend of mine in the country, who wiſhes to eſtabliſh a mulberry plantation; and hope you will excuſe the trouble I am always giving you.

VERA PERMALL.

*Madras, November 2d, 1794.*

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## To VEA PERMALL PILLY.

THE Letters I publiſhed, for the culture of ſilk, were tranſlated into Malabars, by Mootiah, for whom I have much regard; but as by want of Types, I have not been able to get them printed, the Bearer will deliver you the original Manuſcript, for the uſe of your friend in the country; or in any way your better judgement may deviſe to render them of more extenſive uſe.

JAS. ANDERSON.

*November 2d.*

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## To DOCTOR JAMES ANDERSON,

REVENUE DEPARTMENT.

SIR,

I AM directed, for your information, to tranſmit to you the encloſed Extract of a Letter from the Honble. Court of Directors, dated 21ſt May laſt.

J. WEBBE, DEPUTY SECRETARY.

*Fort St. George, 3d January, 1794.*

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## *Extract of a General Letter from England, dated 21ſt May, 1794.*

Par. 53. THE directions contained in the 4th paragraph of our Revenue diſpatch, of the 3d July laſt, ſufficiently evince our earneſt deſire to afford every reaſonable degree of encouragement to Doctor Anderſon's endeavours, for eſtabliſhing the manufacture of ſilk, on the Coaſt of Coromandel; and we ſhall chearfully conſent to your rendering ſuch pecuniary aſſiſtance to the undertaking,

undertaking, as shall give it a fair chance of success.—With respect to what is stated in the 5th and 6th paragraphs of your Letter, in the Public Department, of the 28th February, 1793, concerning the charges already incurred by Doctor Anderson, in his laudable endeavours for furthering an object of so much utility, we can only say, that we are not only willing to discharge the amount thereof, but shall have great satisfaction in giving Doctor Anderson a more substantial proof of the sense we entertain, of his zeal and ability.

54. Of the samples of silk received by the Contractor, the following report has been made to us, that it is of good quality, was admirably well wound, and if it is procurable at a rate of cost equal to what the article is afforded for at Bengal, it would answer for sale, in this Country.

*A true Extract, (signed)* J. WEBBE, Dep. Sec.
Compared, A. FALCONAR.

## To DOCTOR JAMES ANDERSON.

Public Department.

SIR,

I AM directed, for your information, to transmit to you the enclosed extract of a Letter from the Honorable the Court of Directors, dated 28th May last.

*(signed)* J. WEBBE, Dep. Sec.
Examined, A. FALCONAR.

*Fort St. George, 3d January,* 1795.

## *Extract of a General Letter from England, dated 28th May,* 1794.

Paragraph 6th—Having been given to understand, that Doctor Anderson had a wish of being supplied with a silk Reel, upon the most approved construction, and being desirous of giving that gentleman a proof of the sense we entertain, of his unwearied attention to the important object of introducing the culture and manufacture of this article on the Coast, we have procured from an artist of this country, one of a more perfect kind than has hitherto been invented; in which, all the defects hitherto complained

of are supposed to be effectually guarded against.—It is laden on the ship Rose, and on its arrival, we desire that this may be presented to the Doctor, in our names, with a request, that after making a trial of its powers and effects, he will report to us, in what degree it is preferable to those at present in use; or whether any further improvement can be suggested, for rendering it more useful than in its present state:—we apprehend, should this be found to possess any superior qualities, you may be able to cause a sufficient number to be made, after this model; or if you conceive any part of the mechanism to exceed the abilities of the native workmen to perform, upon indenting for such parts from hence, we shall take care you are regularly supplied therewith.

*A true Extract, (signed)* J. WEBBE, Dep. Sec.
Compared, A. FALCONAR.

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## To the RIGHT HONORABLE LORD HOBART, GOVERNOR IN COUNCIL.

MY LORD,

I AM favored with two paragraphs of the general Letters from England, dated May 21st and 28th, last year; the first approving of the silk manufacture here, and the latter announcing a Reel, which, at the instance of my friend, Mr. Molesworth, the Court of Directors have done me the honor to send from London.

I am very sensible of the attention of government, in forwarding these Papers, as an acquaintance of the approval of what I have had so much at heart, is very pleasing to me.

I have not been honored with any communication, of the subject of the 5th and 6th paragraphs of the Government Letter, in the Public Department, under date the 28th February, 1793, to which the Honble. Court have reference, in the 53d paragraph of their general Letter of the 21st May last:—I am, however, led to believe, that a flattering representation was therein made, of my endeavours to promote an object of such public utility as the establishment of the cultivation of Silk on this Coast; and from the orders therein given to Government, to defray the charges incurred by me, in this undertaking, imagine you will not hesitate to carry them into effect; in which case I shall make known to you the amount.

In

In answer to the 54th paragraph of the general Letter, of May 21st, the Honble. Court must be sensible, that in the present stage of the business, and until the manufacture is in the hands of the natives at large, it would be premature and impracticable, to make any estimate of the cost at which the article may be brought to market.

The only points requisite to be ascertained *viz.* the rapid growth of the Mulberry, and the goodness of the Silk, I have already demonstrated; and when the number of women and children, now idle for the most part of the year, are considered, and that the expence of their labour will be but little, in comparison with the quantity of cacoons which they may rear, when the Mulberry, as in Bengal, is cultivated by one set of ryots, and the silk wound off by another, or at the Company's Filatures, it is impossible to say how cheaply silk may be manufactured, when the same, or something similiar, is effected.

The attention of the Honble. Court, in sending me a Reel, is very gratifying; whenever it is forwarded to me, I shall not fail to state my opinion of it; but my Reels, as now improved by a treble velocity, have been found to answer every purpose; and the simplicity of the double crossing machines, described in my letter to Government, January 21st, 1793, renders them superior to any thing of the kind hitherto in use.

I am, MY LORD, &c.

JAMES ANDERSON.

*Fort St. George, 26th January*, 1795.

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## To DOCTOR ANDERSON,

### PHYSICIAN GENERAL.

I HAVE to acknowledge the receipt of two letters from you; one dated from Vanimbady, the other from Madras, enclosing an Arzee, from Behader Sing, to Azeem ul Omrah;—who will, I apprehend, very readily defray any encrease of expence, you may judge necessary, to the success of the undertaking, he having already applied to my brother, to furnish him with a credit at Madras, for that purpose. Behader Sing, it seems, recommends to the Minister, a considerable extension of the culture of the Mulberry Plant, as indespensibly requisite to the ultimate success of so extensive a plan as his.—Captain Mackay writes me, that he met, while at Rungpore, with an

uncommon

uncommon ſpecies of the Mulberry, which he has very conſiderably tranſplanted to Hydrabad.—He deſcribes it as a hardy plant, quick of growth, and poſſeſſing great luxuriance of foliage; properties that muſt render it very valuable, in the rearing of ſilk-worms.

The continued marching we have had, almoſt ever ſince His Highneſs moved, with his army, from the vicinity of Beder, has prevented my anſwering your Letters ſo punctually as I ſhould otherwiſe have done.

The numerous forces particularly of Horſe, compoſing the army I am with, have followed, hitherto, the windings of the River Maunjrah; for the convenience of water and forage; which its fertile banks ſupply in the greateſt abundance and perfection.

The climate here, is nearly, I think, the ſame as that of Myſore; the nights and mornings, perhaps, rather keener; but the cultivation exceeds any thing I ever ſaw, in India, or indeed any where:—believe me, I do not exaggerate, when I aſſure you, that the whole face of the country from hence to Beder, a ſpace of at leaſt one hundred miles, by the route we marched, is nearly one uninterrupted ſheet of wheat, barley, Jowarree, and other dry grains;—nor is this charming ſcene confined merely to the neighbouring plains, as the eye is regaled with the ſame unbounded proſpect of the happy fruits of induſtry, from the ſummits of the few hills ſcattered along our routes; which, while it unqueſtionably beſpeaks an adequate population, and a fertile ſoil, naturally leads one to entertain more favorable ſentiments of the humanity and policy of the lords of it, than they have hitherto had credit for amongſt us; or at leaſt, may induce us to ſuſpect, that they are not ſuch inconſiderate rapacious tyrants, as we have generally been taught to conſider them.

I have forwarded ſome papers of ſilk-worm-eggs, hatched at Beder, to Mr. Uthoff, at Poonah, with a view to tranſporting the breed gradually to Surat; but as Sir Charles Mallet has removed from Poonah, with the Peiſhwa's Army, I am afraid your ſcheme muſt be poſtponed to a more propitious ſeaſon; ſhould we canton at Arungabad; this year, it will be a favorable opportunity to reſume the attempt.

JAMES ACHILLES KIRPATRICK.

*Camp at Haſsunpoor, on the banks of the Maunjrah, 3d Feb. 95.*

TO

To The Right Honble. LORD HOBART,
GOVERNOR IN COUNCIL.

MY LORD,

ACCOMPANYING this, I send the particular account your Lordship seemed to wish; and leave it to your pleasure to settle as you may think proper,

I have the honor to be, My Lord, &c.
JAMES ANDERSON.

*Fort St. George, February 12th*, 1795.

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To DOCTOR JAMES ANDERSON,

I AM directed by the Right honorable the President in Council, to acknowledge the receipt of your Letter of the 12th instant, and to inform you, that the amount of your disbursements, being Thirteen Thousand three Hundred and Ninety-seven Pagodas, seventeen Fanams and twenty Cash, (13,397 17 20) on account of the introduction of the Cochineal and Silk-worm, upon the Coast, will be discharged upon application at the Treasury.

*(Signed)* J. WEBBE, Dep. Sec.

R. SHERSON, Ex.

*Fort St. George, 14th February*, 1795.

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To The Right Honble. LORD HOBART,
PRESIDENT AND GOVERNOR, IN COUNCIL.

MY LORD,

THE patronage of the Honble. Court of Directors, for a Silk Manufactory, being decided by the resolution of your Board, on the 14th Instant, I have the honor to acquaint you, that in consequence, I have drawn from the Treasury, for the whole of my expences, on that and other accounts, of improvement, the sum of 13,397 17 20.

As the expenditure of this money, is of little avail, unless the light which has been thrown upon the subject is applied to use, your Lordship will be pleased to acquaint the Directors, by your first despatch, that hearing of no extention of the manufacture within their possessions, since the 22d February, last year, I have been induced to favor the idea of its introduction to the notice of every government

government in the Peninsula, of which, the Honble. Court, will not hesitate to approve, seeing the export must necessarily fall into our hands.

I have the honor to be, MY LORD, &c.
JAMES ANDERSON.

*Fort St. George, February 19th, 1795.*

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TO THE RIGHT HONORABLE LORD HOBART.

MY LORD,

HAVING requested Captain Mooney, to send on shore some Shawl Goats, I am sorry to find that the two which have been sent, are so lean that it appears to me very doubtful they will live, till they reach St. Helena; considering the safe arrival of these animals a National object, I take the liberty of recommending that the goats on board the Goddard and Asia, be landed immediately, to recruit; and not forwarded to Europe, till the next fleet, which I understand, will sail in April.

Captain Mooney says, that the goats have fallen off astonishingly, since they came here, and is sorry they had not been landed on their first arrival.

I am, MY LORD, &c.
JAMES ANDERSON.

*Gardens, March 3d, 1795.*

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TO DOCTOR ANDERSON,
PHYSICIAN GENERAL.

I SEND you six Shawl Goats, by order of the RIGHT HONORABLE THE PRESIDENT IN COUNCIL, landed from on board the ship General Goddard.

J. GREENHILL.

*Friday Morning.*

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TO DOCTOR ANDERSON, MADRAS,

BOTH your obliging letter, and the celebrated ram gog, reached me in safety; I return you and your respectable Armenian friend my best acknowledgements, for so uncommon a specimen of

of that useful animal. I expect the other with great impatience; I hope that it will arrive time enough to propagate the real ante-deluvian race in England, even this year.

A very curious fact has occurred, in consequence of your sending me this sheep; I had one from the island of Gothland, in the Baltic, where there is a very pure race; to my utter astonishment, upon comparing the two sheep together, they were exactly the same in point of size, shape, wool, &c. only the Swedish had but four horns, and not six, like the ram from mount Ararat; this circumstance tends to confirm the idea that the Goths came from Asia, as some historians have asserted; they would naturally bring their flocks with them; so that the same race might be found in the neighbourhood of Mount Ararat, and in the distant Island of Gothland.

You will hear with pleasure, that the British Wool-society is going on successfully; you will find in this packet, some specimens of our manufactories, and two waistcoat pieces, one for yourself, and the other for your Armenian friend, of which, I hope he will have the goodness to accept.

We are at present deeply engaged in an agricultural survey of the whole Island of Great Britain, the nature of which will be sufficiently evident, from the papers herewith sent: the whole will be compleated in about three months, and in nine months from its commencement.

I hope that your spirited exertions, for the advantage of the valuable possessions of Great Britain in the East, are succeeding to your wish.

JOHN SINCLAIR.

*Whitehall, 17th April, 1794.*

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## To SHAMIER SULTAUN, Esquire,

I HAVE the pleasure to enclose for your inspection, a Letter from Sir John Sinclair, with musters of stuff for Waistcoats, and accounts of the safe arrival of the Ram-gog in England.

I beg the favour of you to let me know your choice in the pattern.

JAMES ANDERSON.

*Gardens, March 6th, 1795.*

## To JAMES ANDERSON, Esq.

Mr. Shamier preſents his beſt reſpects to Doctor Anderſon, with a great many thanks, for his and Sir John Sinclair's very polite attention, and returns herewith the letter and ſamples, which laſt—he eſteems all of them promiſcouſly very good, and ſuitable to his taſte, therefore begs leave to refer to the Doctor, that he will be pleaſed to take firſt his choice.

It is a moſt ſatisfactory circumſtance, indeed, to ſee ſuch good produce from the induſtry of liberal minds, which always cauſes a great deal of benefit to the public, and flouriſhing of the world.

Mr. Shamier takes the liberty to requeſt of the Doctor, to be ſo obliging, as to aſſure Sir John Sinclair of his above acknowledgements, and would have ſooner returned an anſwer, had not the beauty of the ſpecimens, made him keep them till he could ſhow them to ſome friends who admired them much.

*March 8th*, 1795.

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## To the right honorable LORD HOBART, GOVERNOR, IN COUNCIL.

MY LORD,

THAT the benefit of landing the Shawl Goats, from the General Goddard, may not be loſt; I have the honor to acquaint your Lordſhip, that at an average of two Madras meaſures daily, which is what we have found by experience, they will eat, I have provided a ſtock of the Bengal gram, carilley, and hay, to laſt them for ſix months.

That an animal of ſuch diverſity of appetite, may be gratified with variety, as a means of preſerving them in health, I have likewiſe cured a quantity of leaves, of three different kinds of trees, of which they are fond; the Rhamnus Jujuba, Mimoſa Nilotica, and Theobroma Gazuma, ſome of which may occaſionally be mixed with the hay.

As the eſtabliſhment of this breed, muſt prove of much conſequence to the manufactures of Great Britain; your Lordſhip will readily ſee the propriety of ſending them to England, on one of the ſhips now under diſpatch, to avoid any riſque of the enſuing hot ſeaſon.

I am, MY LORD, &c.

JAMES ANDERSON.

*Fort St. George, April 7th*, 1795.

To

## TO THE EDITOR OF THE MADRAS GAZETTE.

AS it appears, that from the raw cold season which we have lately experienced, without sufficient shelter from the N. E. monsoon, the breed of silk-worms in this neighbourhood has been nearly destroyed, you will do me the favour to acquaint your correspondents that all those persons who are desirous of continuing to exert themselves in this way, may be supplied with eggs of both the yellow and white China monthly worm, by application to me, before the first of next month.

JAMES ANDERSON.

*Fort St. George, April 13th, 1795.*

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## TO THE RIGHT HONORABLE LORD HOBART.

GOVERNOR, IN COUNCIL.

MY LORD,

IT is with great pleasure, I have a second opportunity of evincing Abdul Wahub Cawn's zeal for promoting the silk manufacture, in delivering a specimen at his Excellency's request, of beautiful silk, lately made at Chittore, for the inspection of the Honorable the Court of Directors, not only on account of the late failure of the worms on this part of the coast, but also that a small specimen which it contains; is elegantly wound by a native of that place.

My garden having been lately supplied from this plantation, so as to enable me again to stock Vellout, Poonamallee, &c. with a sufficiency of eggs, will demonstrate the propriety of my having introduced the manufacture into different parts of the country, as accidents which happen to this insect in a similar manner every where from bleak winds, may be remedied without loss of time.

I have the honor to be, &c.

JAMES ANDERSON.

*Fort St. George, April 14th, 1795.*

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## TO DOCTOR JAMES ANDERSON, P. G.

THE Right Honorable the President in Council, who is sensible of your attention to the Honorable Company's Shawl Goats, directs me to acknowledge the receipt of your Let-

ter, dated the 7th inſtant, and to inform you that Captain Craig, of the Queen, has been ordered to receive them on board of his ſhip, and to be mindful of ſuch inſtructions as you may judge neceſſary to ſend, for the care and preſervation of them.

J. WEBBE, SECRETARY.

*Fort St. George, 11th April,* 1795.

EX. R. SHERSON.

## To CAPTAIN MILLIKEN CRAIG, OF THE SHIP QUEEN.

I AM directed by the Right Honorable the Preſident in Council, to deſire that you will receive from the Phyſician General, Doctor James Anderſon, ſix Shawl Goats, which upon the arrival of your ſhip in England, you will diſpoſe of according to the orders which you may receive for that purpoſe, from the honorable the Court of Directors.

Doctor Anderſon has provided a ſufficient ſtock of proviſion for them during the paſſage, and has been authorized to furniſh you with ſuch inſtructions as he may judge neceſſary, for the care and preſervation of them, which you are hereby required to obſerve and obey.

J. WEBBE, SECRETARY.

*Fort St. George, 11th April,* 1795.

EX. R. SHERSON.

## To SIR JOHN SINCLAIR, BART.

I WAS favored with your letters of April and July, with the reports which you ſent by Mr. Cleghorn, who on this and every other account, will always merit my beſt regards to his welfare.

The Edinburgh Manufacture has been admired, as you will ſee by Mr. Shamier's note on the ſpecimens of intended waiſtcoats, which I incloſe, and the attention of my Armenian friend, will farther appear by a beautiful ram, from the province of Herivan with wool entirely white, which Captain Craig of the Queen, has taken charge of for you.

The

The attention of the Court of Directors, in ordering Shawl Goats from Tibet, as it may greatly tend to introduce manufactures of this delicate substance into our Island, will not escape your notice; some that were sickly in the late Ships having been committed to my care, are now shipped by government on board the Queen, India men, in good health, and I have the pleasure to inclose you my correspondence regarding them.

At first sight they appear like Welsh goats, both body and limbs being covered with long shaggy coarse hair; but besides the fine down or matter of which Shawls are made; what distinguishes them from other goats, is the divided state of the Scrotum, making the Testicles separate and distinct appendages.

The Shawl is a very delicate and thin matting of down, on the surface of the skin, amongst the roots of the hair, and I have only been able to find it on the younger, or half grown goats, not only in the natural state which I have mentioned, but likewise falling off in small flocks, and entangled amongst the hair, which may be owing to their long stay at Calcutta.

I have read some of the reports made to the Society in which you so commendably preside, with great attention, and am satisfied, that from the public injury which appears by land lying nearly waste in commonage, it must be the wish of every well disposed person that they were appropriated and inclosed, after just compensation to those who have hitherto enjoyed the pasturage and use of such lands.

Here a much greater proportion of land, comes under this discription than in England, and if ever a reasonable mode of appropriating them is adopted, the improvements, I have hinted at, may be spread over the country with much public and private advantage.

JAMES ANDERSON.

*Fort St. George, April 23d*, 1795.

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To JAMES ANDERSON, Esq.

I AM favored with your letter of the 15th instant, accompanying the eggs of the white and yellow silk-worm, they came perfectly safe, and will I hope put soon another face on the business here, and an end to my uneasiness at seeing such fine foliage as there is at present on the Plantation remaining useless.

The flannel and wax-cloth the bearer takes with him.

BOSWALL PARKINSON.

*Vellout, April 16th*, 1795.

To

354587

## To JAMES ANDERSON, Esq. P. G.

I AM honored with your favor, accompanied with a moſt ſeaſonable ſupply of ſilk-worm eggs, yellow and white, for which pleaſe accept my moſt grateful thanks, thoſe I have are dwindling to nothing, and from the little experience I have, a breed from unhealty parents will never ſucceed; notwithſtanding all the nurſing and attention I have given them, there is a dayly mortality prevails, and I fear our breed here would be extinct ſoon was it not for your friendly aſſiſtance.

By the bearer I return the cloth and flannel, and have the pleaſure to be, &c.

A. BLACKADDER.

*Poonamalee, April 16th,* 1795.

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## To RICHARD MOLESWORTH, Esq. LONDON.

HAVING laſt year tranſmitted you an almanac of this country, compiled by Mootiah, the tranſlator of my publications into Malabars. I now incloſe ſome remarks thereon, which have been made by Mr. Goldingham of the obſervatory here, that appear very ingenious

Doctor Berry deſires me to tell you that ſometime ago he ſent you ſome unknown ſeeds, which he now finds are of the Camerium Cordefolium.—The Boa Cre of Marſden.

JAS. ANDERSON.

*Fort St. George, 23d April,* 1795.

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## SOME REMARKS ON THE HINDOO ALMANACK, FOR THE 1716th YEAR OF THE *Sâlĭvâhănă* EPOCHA.

The places of the Planets in this Almanack, at the commencement of the year, correſpond with the 10th of April, 1794, A. D.

The firſt column of each page contains *Dĕnă*, or the day of the months, the ſecond *Vâră*, or the day of the week; the third *Tĕdhĕ*, or the moon's phaſe 15 in number; the fourth column, *Nătchătră*, or the conſtellation in which the Moon is found, 27 in number, a name to each; the ſixth *Cărănă*, or half-phaſe of the moon, of which there are 11, each deſtinguiſhed by a name; the ſeventh column contains *Tĕyâiyăm*, or *unfortunate* hours; and the eighth *Ahâs*, or the length of the day.

Theſe

These are the principal columns; the remainder of each page is divided into portions containing the most remarkable Phenomena of the Planets, with Astrological predictions, depending on their situations; the feasts and fasts of the Hindoos, and many particulars relative to the incarnations, and transformations of their deities, &c.

The Bramins I understand, compute the astronomical part of their Calendars, to as great nicety, as their rules and tables will admit this being the case, either one or the other it would seem, is defective; as on a comparison of the Phases of the Moon, by their computation with ours, great differences, and irregularities, are generally observed—the time of their Phase, sometimes preceding, sometimes following that of ours, and sometimes, (tho' rarely) the difference is very small; these variations are by no means reducible to rule, which might lead us to suppose errors in the calculations, did we not know the abilities of the Hindoos in difficulties of this nature.

The following table will shew the irregularities here spoken of, the Hindoo Time, I have converted into Solar or Apparent Time, according to our method of reckoning.

A. D. 1794. Saliv. D. 1716.

| | | Phase of | TIME OF PHASE. Bramins. | | Europeans. | | Difference. | |
|---|---|---|---|---|---|---|---|---|
| | | ☾ | H. | M. | H. | M. | H. | M. |
| April | 15, or *Chîtrâ* | 6, full | 2 | 21 | 3 | 27 | 1 | 6 |
| | 29, | 20, new | 9 | 4 | 9 | 20,4 | 0 | 16,4 |
| May | 14, or *Visâkhâ* | 4, full | 17 | 29,8 | 18 | 2,4 | 0 | 32,6 |
| | 28, | 18, new | 15 | 50,9 | 17 | 57,4 | 2 | 6,5 |
| June | 13, or *Jêyâshtâ* | 3, full | 5 | 43,1 | 5 | 59,4 | 0 | 16,3 |
| | 27, | 17, new | 3 | 20,5 | 3 | 37,4 | 0 | 17,0 |
| July | 12, | 32, full | 16 | 9,2 | 15 | 56,4 | 0 | 12,8 |
| | 26, or *Ashâdhâ* | 14, new | 14 | 42,9 | 15 | 24,4 | 0 | 41,5 |
| Aug. | 11, | 30, full | 0 | 47 | 0 | 45,4 | 0 | 1,6 |
| | 25, or *Srâvânâ* | 12, new | 4 | 19,2 | 5 | 44,4 | 1 | 25,2 |
| Sept. | 9, or *Srâvânâ* | 27, full | 9 | 7,2 | 9 | 12,4 | 0 | 5,2 |
| | 23, or *Bâdrâpâdâ* | 11, new | 8 | 24,5 | 10 | 15,4 | 1 | 50,9 |
| Oct. | 8, | 25, full | 15 | 41,9 | 17 | 50,4 | 2 | 8,5 |
| | 23, or *Asvêjâ* | 10, new | 14 | 27,5 | 15 | 59,5 | 1 | 32 |
| Nov. | 7, | 25, full | 3 | 12,7 | 3 | 16,4 | 0 | 3,7 |
| | 22, or *Cârtîkâ* | 10, new | 8 | 49,7 | 9 | 40,4 | 0 | 50,7 |
| Dec. | 6, | 24, full | 14 | 4,2 | 14 | 5,4 | 0 | 1,2 |
| | 22, or *Mârgâsîrâ* | 11, new | 2 | 5,1 | 2 | 25,4 | 0 | 20,3 |

A. D. 1795

A. D. 1795. Saliv. D. 1716.

| | | TIME OF PHASE. | | | | |
|---|---|---|---|---|---|---|
| | Phase of Bramins. | Europeans. | | Difference. | | |
| | ☾ | H. M. | H. M. | H. M. | | |
| Jan. 5, | 25, full | 2 28,2 | 2 54,4 | 0 | 26,2 | |
| 20, or *Pŭshyă* | 10, new | 17 37,3 | 17 30,4 | 0 | 6,9 | |
| Feb. 3, | 24, full | 17 9,5 | 17 53,4 | 0 | 43,9 | |
| 19, or *Mákhă* | 11, new | 6 16,5 | 6 26,4 | 0 | 9,9 | |
| March 5, | 25, full | 9 5;5 | 10 27,4 | 1 | 21,9 | |
| 20, or *Pálgŭnă* | 10, new | 17 41,9 | 17 3,4 | 0 | 38,5 | |

The ancient Hindoos appear to have been better acquainted with the inequalities of the motion of the moon, than the Bramins, at present, as we should be induced to believe from the above comparisons; however, I am inclined to think, either their rules in some cases defective, or, they do not bestow the requisite trouble on these computations, except on particular occasions; an opinion supported by comparing the times of a Lunar Eclipse, on the 3d of February, 1795.

| | Europeans. | Hindoos. |
|---|---|---|
| Beginning of the Eclipse, - | 16h. 20,4m. | 16h. 21,5m. |
| Middle, - - - | 17 46,4 | 17 51,5 |
| End, - - - - | 19 12,4 | 19 15,5 |

By us, the duration of this Eclipse, is 2h. 52m. by the Hindoos 2h. 54.m a near agreement for people whom we suppose know nothing of the matter.

The length of the diurnal and nocturnal arcs, are also given in the Hindoo Calendar, with an accuracy surprising to those who have been taught to suppose the Astronomical predictions of the Bramins absurdities; this will appear by the annexed table.

| | | LENGTH OF THE DAY. | |
|---|---|---|---|
| 1794, | | *Hindoos.* | *Europeans.* |
| April | 15 | 12h. 18m. | 12h. 18m. |
| | 29 | 12 28 | 12 28 |
| May | 14 | 12 36 | 12 36½ |
| | 28 | 12 42 | 12 42½ |
| June | 13 | 12 46 | 12 46 |
| | 27 | 12 47 | 12 46 |
| July | 12 | 12 44 | 12 43 |
| | 26 | 12 40 | 12 37½ |
| August | 11 | 12 31 | 12 29 |
| | 25 | 12 22 | 12 20 |

September

| 1794, | | LENGTH OF THE DAY. Hindoos. | | Europeans. | |
|---|---|---|---|---|---|
| September | 9 | 12 | 11½ | 12 | 10 |
| | 23 | 11 | 59½ | 11 | 59⅛ |
| October | 8 | 11 | 50 | 11 | 48⅝ |
| | 23 | 11 | 38 | 11 | 38 |
| November | 7 | 11 | 29½ | 11 | 29 |
| | 22 | 11 | 21 | 11 | 20½ |
| December | 6 | 11 | 14½ | 11 | 15½ |
| | 22 | 11 | 12 | 11 | 13⅛ |
| 1795 | | | | | |
| January | 5 | 11 | 14½ | 11 | 15½ |
| | 20 | 11 | 24 | 11 | 21½ |
| February | 3 | 11 | 29 | 11 | 29 |
| | 19 | 11 | 39 | 11 | 39 |
| March | 5 | 11 | 45½ | 11 | 49 |
| | 20 | 11 | 59½ | 12 | 00 |

The arcs in the European column were calculated as correctly as possible. The Phenomena of the other planets in this Calendar, are not so correct, particularly of Mercury; the motions of Jupiter and Saturn (as we should imagine) appear to be the best understood; the want of the Telescope kept them unacquainted with the Satellites of Jupiter and Saturn, and the Georgian Sidus; nor could they have known much of Mercury's motion, for the same reason.

The Calendar ends with the 21st of March, and beginning as above; the year comprises only 346 days, being 8⅓ days short of the Lunar, and 19½ days short of the Solar year, this is neither proper nor agreeable to the knowledge the Bramins have had of this matter; they appear to have ascertained the year to tolerable nicety; according to them the year contained 365 days 6h. 12m. 30s. of our time, about 23½ minutes longer than the same by us now—this difference has been supposed by some to have arisen from a decrease in the length of the year, and consequently of an approach of the earth towards the sun; an air of probability is given to this supposition by comparing the length of the year, as found by Hipparchus near 2000 years ago, with that by the Bramins, and by us.

LENGTH OF THE YEAR.

| | D. | H. | M. | S. |
|---|---|---|---|---|
| By the Hindoos, | 365 | 6 | 12 | 30 |
| By Hipparchus, about 1940 years ago, | 365 | 5 | 55 | 12 |
| By European Astronomers, at present, | 365 | 5 | 48 | 57 |

Now ſuppoſing the length of the year to decreaſe in an arithmetic progreſſion, we ſhall have the time when the length of the year was determined by the Hindoos.

| | | Years | | Years |
|---|---|---|---|---|
| By Hipparchus, | 6' 15" | 1942, | 17' 18" | 5375, |
| Aſtronomers at preſent, | 6 15 | 1942, | 23 33 | 7317. |

Here we find a difference of near 2000 years, but the laſt concluſion (7317 years) where Hipparchus's data, is only once uſed, agrees neareſt with their own account of the matter.

It is the tranſlator I perceive, who has ſhortened the year in this Calendar, to prevent, (as he ſays,) confuſion, beginning with one period and ending with another.

The almanack on which theſe remarks were made, was tranſlated into Engliſh by a ſenſible and learned native, named Trevercadoo Mootiah; a man, urged on no doubt by a ſtrong genius, as nothing leſs could induce a perſon to beſtow his time in ſuch purſuits in this diſcouraging country, who has been at great trouble and expence to cultivate his mind, and who is highly deſerving encouragement. With the aſſiſtance of a perſon of this deſcription we might hope to bring to light, many curious, if not uſeful, works, now mouldering perhaps in the ancient fabricks of the Peninſula, with the ſeeds of many rare and valuable talents, unproductive from a want of that genial warmth, only to be beſtowed by Princes and Rulers of a country.

J. G.

*Madras, 1795.*

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TO THE EDITORS OF THE COURIER AND GAZETTE.

AS the fruiting ſeaſon is not entirely over, you will oblige me by communicating to your readers, that inſtead of the trouble of hair lines, which have been found neceſſary to ſhelter ſuch ſmall ſeeds, when evolving in a cold climate, they may ſqueeſe the juice from what ripe fruit yet remain, ſpread out the pulp in the ſhade to dry, winnow and preſerve the ſeeds for ſowing, after the heavy rains, when the atmoſphere is temperate and moiſt.

Some ſeeds prepared in this way laſt year, and ſown in my garden in December, are now ſtrong healthy plants, ten feet in height.

JAMES ANDERSON.

*Fort St. George, 28th April, 1795.*

To

## To the Right Honorable LORD HOBART, GOVERNOR, IN COUNCIL.

My LORD,

BELIEVING that any propoſal for improving the Country will meet with your Lordſhip's favorable reception, I have the honor to obſerve, that there is a tract of high land in the Jaghire, partly covered with hills, which is bounded on the north by the Adyar, on the ſouth by the Palar, on the eaſt by the ſea, and on the weſt by the lands of Conjeveram.

What the collection is, from this extenſive tract, of thirty miles ſquare, or 540,000 acres, I do not know, but from inſpection can ſay, it is only the ſkirts of low land, and ſome ſmall ſpots amongſt the hills here and there, that has ever been cultivated. The reſt, which is volcanic earth, and the fitteſt ſoil in India for vegetation, is rendered ſo ſteril by drought, that the jungle which it ſpontaneouſly produces is too ſlender to be made into billets, and the poor people can only get bruſh-wood, which they carry in bundles on their heads, twenty or thirty miles to market.

The graſs which it might produce for paſture, were this ground cleared of ſuch jungle, would be a great improvement, and it would certainly be attended with public benefit, to grant freehold leaſes, as the occupancy of theſe lands would be attended with a much better ſupply of black cattle, ſheep and fire-wood, by the induſtry which ſuch tenor would excite.

In the middle of this tract, between Vandalore and Chinna Parma Coil, there is a ſpace nearly ten miles in extent, where the land ſtretches out pretty level, from the foot of the hills, and it ſeems probable that the bed of the Palar beyond Conjeveram, may be higher than this ſpace: at any rate, it is worthy the attention of Government to order a ſurvey for water courſes to run from the Palar, where it iſſues from the Arcot country towards the hills in the Jaghire, as by this means the tanks may be filled during the freſhes, independant of rains in their neighbourhood, and many more tanks conſtructed, with certain advantage, becauſe the water of that river is ſupplied from the S. W. as well as N. E. monſoon, its ſources reaching as far as Savandroog, in Myſore.

I am, My Lord, &c.

JAMES ANDERSON.

*Fort St. George, 3d May, 1795.*

## To DOCTOR ANDERSON, P. G.

I HAVE the pleasure to inform you, that the seeds of the bastard cedar you were so good as to send me, all came up, and are thriving; I never saw any thing like them for quickness of growth: our hot winds began here in March, and since that time we have had but one shower of rain; yet notwithstanding, they have grown about four feet; the instant the rains begin, they shall be transplanted, and I have not a doubt but that they will be forty feet high, before next March: if you could oblige me with more seeds, I should take it kind.

Enclosed I do myself the pleasure of sending some seeds of the Arnotta tree, with the color adhering, lest you should have none of the trees; also a little of the color, which is much admired at home, if you wish for more of the seeds, I can send you a quantity.

I hope your silk manufacture is going on to your wish,, you have met with many crosses where it was not to have been expected. I have been obliged to reduce my schemes: I was led into expence from the promise of Lord Cornwallis to assist me, in which I have only myself to blame—I ought from the length of time I have lived in the world, to have known better.

JOHN GLASS.

*Bhaugulpoor, 19th May, 1795.*

N. B. The color sent was washed from the seeds.

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## To DOCTOR ANDERSON, P. G.

BY desire of Captain Wilks, I enclose you some of the seed of the Ankree, a species of grass apparently similar to the Spanish chichling-vetch, found also in America. It is indiginous to, and grows spontaneously, in the province of Bahar, and the Zemindary of Benares: it appears in the month of October in great luxuriance, upon those low grounds that have been inundated by the waters of the Ganges, admits of three or four cuttings, runs to seed, and fades in April.

A bag shall be forwarded to your address by sea, and I shall be happy to procure you a supply of any quantity, should you find it useful: one biggah supports three or four horses during the season, in rude health and good condition.

H. FRASER.

*Calcutta, May 4th, 1795.*

To

## To JAMES ANDERSON, Esquire.

I AM sorry to acquaint you with the bad success of the worms under my care, which is such I hardly know what to do.

Though I kept more cacoons produced from the eggs you were so good to send here, than by a register from the commencement of the business should have filled the bungalow at Vellout and Trivallore with worms, yet I found myself sadly disappointed, but determined not to be so again, I preserved an immense quantity of cacoons for eggs, still the failure is so great I have not the number of worms I wanted.

The defect I mention is not in the cacoons, moths or eggs; but only in the young worms, which disappear after they come out of the eggs, and the people begin to feed them, though there is nothing wrong in the leaves, which are brought into the bungalow fresh and good.

I have also been careful to have the west side of it well shut, and now keep the floor wet by throwing water over it, and have the small worms fed 12 times in the 24 hours, but cannot yet say what effect watering the floor, and the additional feeding will have.

As I prefer loss of rest to seeing the business go on the way it does, I have begun to stay in the bungalow all night myself, and now give so very small a part of my attention to any thing else, I can see minutely carried into execution any instructions you may think proper to give me, for which I shall be exceedingly obliged, and for your opinion respecting what has happened.

BOSWALL PARKISON.

*Vellout, June 24th, 1795.*

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## To Mr. BOSWALL PARKISON.

IT never was my intention to make silk in quantity at Vellout, if you will take the trouble to read my Publications, you will see that the establishment under you, is solely recommended for the distribution of the plant, in and over all the Jaghire, as however, you seem solicitous to keep worms, you may easily satisfy yourself at any time, by looking into the Bungalow in my garden, where there is no particular care, and yet the worms are perfectly healthy, and can be multiplied at pleasure.

JAMES ANDERSON.

*Fort St. George, June 25th, 1795.*

To

## To DOCTOR JAMES ANDERSON,

PUBLIC DEPARTMENT.

I AM directed by the Right Honorable the President in Council, to send you the enclosed Extract of a Letter from Canton, in answer to an application which was made to the Supercargoes at that place, at your instance, for procuring a supply of Silk Worms and Mulberry Trees.

J. WEBBE, SECRETARY.

R. SHERSON, Examined.

*Fort St. George, 28th June, 1795.*

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### *Extract of a Letter from Canton, dated 25th March. 1795.*

WE are sorry it has not been in our power to send you the Nankeen Silk Worms and Mulberry Trees described in your letter of the 28th June, 1793, every attempt made by the Residents here to procure the genuine sort discribed by Mr. Frushard, having proved unsuccessful.

His Excellency Lord Macartney, in his journey from Pekin, was so fortunate as to obtain some worms and Plants of the right sort, but as his Excellency's instructions, on the subject were confined to Bengal, and the quantity he had was not very great, he did not think himself authorized to part with any of them to us, for the purpose of sending to Madras, where the probability of their succeeding would not be so great.

Should these worms reach in safety, we hope your settlement may in a short time be supplied from thence with less difficulty than can be done from this country, however if a favorable opportunity should offer for procuring any which we can be assured are of a proper kind, your Lordship may rely on our forwarding them to Madras, by the earliest conveyance.

A true Extract, A. FALCONAR, DEP. SEC.

A. SLINGSBY, Ex.

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## To DOCTOR ANDERSON.

THE bearer, Mr. Lyte, who has for some time past been employed here, is going to your side of India in hopes of bettering his situation, he is a native of the West Indies, and is acquainted with some of the branches of their cultivation, he never

was

was in my ſervice, but I have had ſome acquaintance with him, and have ſufficient reaſon to believe, that he is a ſober, quiet, honeſt and intelligent man, ſhould any perſon who is concerned in your new ſpeculations of cotton or indigo, have occaſion to employ him, I am confident they will find him deſerving of their confidence.

H. SCOTT,

*Bombay, 14th June, 1795.*

## To DOCTOR ANDERSON, MADRAS,

I AM favored by the laſt deſpatches with your printed correſpondence of 1793, relative to ſilk and to baſtard cedar trees, together with ſome of the ſeeds, for which I am obliged to you, though without any accompanying letter.

I have to obſerve that you ſtill continue to let the mulberry trees grow to 30 or 40 feet high, though I preſume that is for the purpoſe of fruit, and ſeeds for propagation, becauſe the leaves of trees of that height are not near ſo fit for food for the worm being hard and coarſe, which muſt affect the worm and the ſilk, for which reaſon the ſoft and tender leaves of the young plants are beſt, giving the worm a good color, and rendering the ſilk almoſt tranſparent.

I have now only to add that as there ſeems a ſpirit of improvement in India, and an attention to uſeful productions of nature, I take forgranted that the bread fruit tree, has not eſcaped attention, and I have the pleaſure to tell you that a very conſiderable number of them having been ſucceſsfully brought in the Botanical ſhip Captain Bligh to the Weſt Indies, His Majeſty has ordered one half to be left at St. Vincents and the reſt carried to Jamaica; they arrived ſafe and thrive exceedingly at both places, I ſhould imagine they would equally flouriſh in India and if produced in great abundance might yield a valuable ſupply of food—The ſpices of India are alſo now cultivated with ſucceſs throughout the Weſt Indies.

That your uſeful endeavours may be crowned with ſucceſs, is the ſincere wiſh of, your, &c.

GEORGE YOUNGE.

## To JAMES ANDERSON, Esq.

I AM favored with your letter of the 25th Inſtant, as I am certain the failures of the worms here have not proceeded from

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any want of care on my part, I am the more anxious on this head, becauſe ſhould reports go abroad amongſt the people, that the worms at the Company's and Mr. Woolf's filatures are ſubject to ſuch accidents and ſo frequently, it may in addition to their natural prejudice to every new ſpeculation, operate as an inſuperable bar to the introduction of the culture of ſilk amongſt them, and as my only object is to ſurmount every difficulty, I ſhall be obliged to you for any farther information on the ſubject, and will be thankful for one of your people who ſuperintends the feeding of your worms, or who feeds them, that I may be certain every thing is done here as it ought to be; in making this requeſt I am influenced by a double motive, the deſire of doing what I can towards the ſucceſs of the undertaking, and credit to your recommendation of me.

That I may have your inſtructions about what is now doing, it is proper to acquaint you with the way the worms here are reared. When they firſt come out of the Eggs, leaves cut very ſmall are ſtrewed over them, with which they are removed to a mat, and fed with the ſame kind of cut leaves, cleaning them is performed by ſeparating the upper layer of the leaves on which the worms are removed to another Mat. The only difference in the farther care of them is, that the leaves are cut proportionally larger, as the worms grow, till at laſt they get them whole: as mentioned in my laſt, I continue to feed them 12 times in 24 hours, but have left off watering the floor of the Bungalow, for fear of hurting the worms by the damp.

Though it has not been your intention to make ſilk at Vellout, yet as it ſeems to me neceſſary to convince the natives by example, that the worms can be reared, I am the more ſolicitous to obtain ſuch information, as to the cauſe of the failures of the worms with me, firſt by ſickneſs and now dying ſhortly after they come out of the Eggs; as may prevent the like happening again, I ſhall therefore be particularly glad of your opinion about it, and if you think keeping different ſucceſſions at once, hurtful to the worms.

The worm houſe at Trivallore is now perfectly eſtabliſhed for inſtructing the people there in the care of the worms, and ſupplying them with every requiſite for the undertaking.

BOSWALL PARKISON.

*Vellout, July 1ſt, 1795.*

To

## To Mr. BOSWALL PARKISON.

I AM favored with your letter of the 1st instant, and am pleased to see that your anxiety and zeal for the success of the Silk Manufacture is no ways impaired, as it will be very agreeable to me to promote your wish of preserving the worms in health at Vellout and Trivallore.

Not however having encreased my own establishment, I have no spare hands, or would readily send you one, but from the account you have transmitted, am enabled to say that too much care, has been the cause of sickness amongst your worms; for the leaves bleed and lose their sap, if cut in the way that you describe, and the worms are too much disturbed by feeding them so often as 12 times in the 24 hours.

In the mornings therefore, when you see the eggs hatching, lay some young tender leaves over them, and when these leaves are covered with young fry, let them be taken up by the stalks and laid on a clean basket or mat, that has been well rubbed over with cow-dung, setting it in the sun shine to dry before it is used, continuing to feed them four times in the day and three times in the night, which will be sufficient, and to obtain leaves of this sort, cut down a part of your Plantation in succession, within six inches of the ground.

As the accumulation of litter and dung is liable to ferment and generate fowl air, every second day, the worms should be shifted to a clean basket, which is best effected with nets on which they are removed with nothing attached to them, besides the leaves of the last feeding; the succession of different hatchings at once is a great relief to the labour, and a means of preventing sickness.

You have a great deal too much scaffolding at Vellout, the stages of which are so high that the feeders must do their work awkwardly, as well as that a circulation of air is prevented by so great a number of mats.

What I have found answer best is to have small portable frames two feet and a half high with only three stages, on which baskets five feet in length and three and a half in breadth are placed, so that a boy of 10 years of age can reach a handful of leaves over the highest basket, as well as that it is of consequence that the worms should be under your eye, and that you readily see how every thing about them is situated, as you walk through the Bungalow.

The worms at Poonamallee are in perfect health, and Mr. Blackadder assures me yield the most beautiful silk; nor is there

any apparent reaſon beſides what I have mentioned, why you ſhould not have equal ſucceſs.

JAS. ANDERSON.

*Fort St. George, July 4th, 1795.*

## To JAMES ANDERSON, Esquire,

I AM favoured with your letter of the 4th inſtant, and hope you will excuſe my again requeſting one of your worm feeders, if but for a day, to put the people here in the way of feeding with whole leaves.

I have now put the mats to double the diſtance from each other they were before, and the number of feedings are reduced.

I am happy to acquaint you the worms have for ſeveral days paſt been coming on very well, ſince the heat of the weather has abated.

I cannot allow that Mr. Blackadder's ſucceſs has been more than mine, for he alſo has loſt numbers of young worms, and that you may ſee my ſilk wound, I ſend two ſkains of it.

BOSWALL PARKISON.

*Vellout, 7th July, 1795*

## To Mr. BOSWALL PARKISON.

AS no ſilk can be more beautiful than the two ſkains you have ſent, it is with pleaſure I ſend the bearer Sattavagi, who will ſhew your people how to feed with whole leaves, and have told him that in a few days he will return, as ſoon as that purpoſe is effected.

JAS. ANDERSON.

*Fort St. George, July 8th, 1795.*

## To DOCTOR ANDERSON, P. G.

I AM much obliged by your letter of the 1ſt inſtant, and feel heartily inclined to meet the views of Mr. Lyte by employing him in the cultivation of coffee, cotton and ſugar, as it appears he is ſomewhat acquainted with it.

From having failed in all my endeavours to perſuade people to enter into ſuch a ſpeculation in theſe diſtricts, I have not made it my buſineſs to enquire if it would anſwer or not, and I fancy the doubts they have entertained on this ſubject have deterred them.

The information wanted to confirm or remove theſe doubts can I imagine be ſoon procured, and if Mr. Lyte will come

to

to the Barramahl, we can then see what steps should be taken in it.

The expence of labour here, the distance of land carriage, the uncertainty of a market, the getting a price that would defray all charges, and bring a profit that would answer Mr. Lyte's expectations, are all I conceive, the principal heads of enquiry.

If he chuses to conduct the business on his own bottom, I'll give him land enough, and though I would not, under the very doubtful prospect I have of such health as will enable me to remain long in the country, like to risk the injuring my own circumstances, I would very gladly contribute to the setting him fairly a going, did I see a tolerable chance of his succeeding.

If again he should find upon enquiry, that the entering into such a speculation probably would not answer, and he would chuse to engage in the cultivation of the ordinary productions of the country, I should be happy to employ him, by putting a village or two under his management.

My motives in this would be the acquiring information on Indian husbandry and the introducing improvements in it among the natives of this country, a business I have long had in my mind, and which the multiplicity of other business has hitherto, and I see always will, prevent my making a trial in.

Should he like this, I would likewise give him charge of a village or two in junction with an intelligent native, who would aid his endeavours, and would instruct him in the country languages.

From this you may rather form an idea of the business in which a person like Mr. Lyte could be employed in these districts, than one of my expectations from his experience, for I guess that he would have more to learn on coming here than he would have to teach others.

However this may be, I think he cannot lose by coming hither, for if the trade of farming and manufacturing should not answer, I imagine he would do very well in the capacity of writer, accountant, or surveyor, and thus if deficient in either, he would sooner qualify himself to be useful in one of them, than in the other lines.

Moderate as my expectations may be, I would give any man of the character you give him, twenty pagodas per month, and you may offer him that for the present: if he agree please to advance him two or three months pay, if he requires so much, and send him off loaded with seeds and with information of all kinds.

This is written in the greateſt haſte, the tappal hour being at hand; I ſhall probably write you again in a day or two.

A. READ.

*5th July, 1795.*

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## To JAMES ANDERSON, Esquire, P. G.

I AM this moment returned from an expedition to a place called Talamalee, 15 miles from hence, to endeavour to find out a gun road, the whole road is a beautiful jungle, or rather a foreſt, with noble timber trees of every ſort, great varieties of them I never ſaw before, and no want of teak-wood here.

I have ſent you two parcels, one containing ten of the wild nutmegs, the other, the flower and leaf of the nutmeg, with three varieties of the fern, you will be ſo obliging as to give theſe parcels to Doctor Berry, with my beſt ſalam.

The nutmeg trees I have ſeen are as ſtraight as an arrow, and about 150 feet high, and very thick, I ſhould imagine they would be fine wood for cabinet work. This jungle contains the pepper plant, the cardamom, ginger, turmerick, ſaffron, and a variety of things that I had not time to examine, there are about 20 or 30 inhabitants at Talamalee, who live upon what they beg from the paſſengers, and the product of the jungle, that is to ſay the ſelling of the cardamoms, &c. to paſſengers, this life they preſer to cultivating the lands, I wiſhed much to get them under me here, but uſed to the roving life they lead, they will not forſake it.

I am afraid you think I have forgot my promiſe of ſending you the pepper plants, they were ſent to Dindigul about a month ago, but not in that order that it was poſſible to forward them on; I hope to ſend them, and ſome others from Cumbie, in a few days. Berry ought to come and examine theſe woods, he would find a thouſand things he never ſaw before; elephants are innumerable here, and the great terror to man, as they are very vicious.

GEORGE WYNCH.

*Goodeloore, 16th July, 1795.*

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## To DOCTOR ANDERSON P. G.

I RETURN you many thanks for your intereſting communication, which I received yeſterday, and have read with much pleaſure.—The benevolent aim of all your labours muſt excite a lively

lively wish in every person for their ultimate success and prosperity—I am extremely happy to learn that you have at last been able to obtain the cochineal insect from America, and besides the interest which every one must feel in an event which tends to enlarge our knowledge, and improve our commerce, I cannot but sincerely rejoice personally on your account; knowing how satisfactory it must be to you, and that it will in some measure compensate the many difficulties and discouragements, which have been thrown in your way—Those it is to be hoped, you will be able to surmount, and finally to accomplish the useful work which you have begun.

In the midst of the difficulties and obstructions which necessarily attend the progress of a new undertaking like this, every liberal mind will find a pleasure in reflecting, that an art once established perpetuates itself, that the most beneficial improvements are also the most lasting, and though their first beginnings are slow and difficult, their after duration is but little affected by the revolutions of power. Even the introduction of an useful vegetable is an acquisition of which conquest has never deprived the world. —The cherry tree, which was first transplanted into Europe by a Roman Consul, has long outlived the downfall of the Roman power: tho' Lucullus when he adorned his villa with this useful tree, little thought that he was doing what would survive the effect of all his victories, and even the greatness of his country. Instances conformable to history and experience, will seldom belie our expectation, and it is reasonable to hope that the growth of the mulberry and opuntia, with the valuable insects which feed upon them, will probably continue to awaken industry and multiply the means of subsistence on this coast, after the memory of more splendid events, which often only operate to waste and destroy, has been long lost and forgotten, but whatever be the final result, this at least must be the earnest wish of every person who is a friend to mankind.

FRA. DUNCAN.

*Warriore, August 8th, 1795.*

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## To DOCTOR ANDERSON, P. G.

I REQUEST you will accept of my best thanks, for having by a late tappal favored me with a copy of your late publication, in which you announce to the world your having succeeded in having imported into this country the true cochineal insect from America,

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The satisfaction you, Sir, no doubt feel in having conducted to so fortunate a termination a scheme originally dictated wholly by philanthrophy, pursued through many discouraging circumstances with unremitted diligence and zeal, and eventually pregnant with benefit as well to the state, as to thousands of our fellow creatures, must be your best reward, and renders the congratulations of those who have the pleasure of knowing you, but little necessary—I have therefore only to express my hopes, that our rulers, encouraged by this second instance of your success, and convinced of the great benefit of at all times disseminating useful knowledge, may in future readily afford you all that support and countenance, which pursuits of such extensive utility are entitled to claim, and also for the good of mankind, to wish that you may long be blessed with health, to enable you to point out and superintend similar enquiries, and that you may frequently enjoy the pleasure of bringing them to equally fortunate terminations.

ALEX. KENNEDY.

*Tanjore, August 10th, 1795.*

## To JAMES ANDERSON, Esq.

I SEND back the man you was so good to let me have, in consequence of being obliged to make accounts with reports of the state of the plantation, to be laid before the Board of Revenue, I have not been able to pay the attention I wished to feeding the worms with whole leaves, but the head man of the Bungalow has declared himself perfectly capable of it.

I have made a large window in the roof of the Bungalow, and am going to make more, which will be a great improvement, as it must keep up a circulation of air, without the wind blowing on the worms, and at the same time let any foul air off.

I have been this morning at Mr. Blackadder's, and perhaps never was finer worms or cacoons seen than we both have.

BOSWALL PARKISON.

*Vellout, 11th July, 1795.*

## To DOCTOR ANDERSON, P. G.

I FEAR I have yet to acknowledge the receipt of a short letter I received from you either immediately previous, or just subsequent to the Nizam's retreat from the Maratta army—for sometime past I have been prevented by indisposition, from taking

king up the pen, which I now resume with the greater satisfaction, as I think I may venture to hazard an opinion, that the return of peace, and the disposition of some of the new leading men at this court, are likely to prove favorable to the effectual prosecution of our silk worm scheme.

In the course of our progress towards the Maratta Frontier, I amused myself in picking up some of the mineral productions that I found scattered over the surface of the soil, being however quite unskilled even in the first elements of mineralogy, I could only select such pebbles, chrystals, &c. as caught my eye, either by their novelty, the splendour of their colour, or the apparent oddity of their forms—such as they are, however, I propose submitting them to your inspection on my arrival at Madras, when if you should be able to select a few pieces from them worthy of a place in your cabinet, I shall esteem myself sufficiently rewarded for my trouble.

I propose likewise bringing you a small quantity of ghya, a species of dry rice, which if it should succeed as well in the dry unflooded grounds of the Carnatic as it does in similar situations in the country of Nepaul, from whence my Brother brought the original seed, you will unquestionably consider as an invaluable acquisition to the country,

The seed I propose offering you is partly the produce of a crop raised near Calcutta, on a spot not liable to be flooded, and partly that of a small crop we had last year at Beder, on a similiar spot of ground, from Nepaul seed.

JAMES ACHILLES KIRKPATRICK.

*Hydrabad, April 6th, 1795.*

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## To JAMES ANDERSON, Esq.

AGREEABLE to your desire, I shall endeavour to give you what information I can respecting the practicability of obtaining the Carmenian goats from Persia.

Being at Bussora in the year 1792, I there saw a male and female, which Mr. Small, Surgeon to the Factory, had brought with him from Bunderick, where he had purchased them at an inconsiderable price—he then informed me that the person he had them of, offered to procure a few more if adequately rewarded for his risque and trouble, as the government of that part of the country of which they are natives, has strictly prohibited their exportation, and the distance they were to be brought, is very considerable.

Mr.

Mr. Small, did not at that time think proper to be at so great an expence on his own account, but having afterwards learned that the Court of Directors were desirous of procuring a breed to be sent to Europe, and Mr. Manesty the Resident at Bussora, having applied to Mr. Small for those I have mentioned for that purpose, he the year following while at Bushire, actually made an agreement with one or more persons, who undertook to bring a considerable number of the Carmenian goats, to be delivered there, Mr. Small soon after proceeded to the factory at Grain, where he unfortunately fell into a bad state of health in which he continued till his decease, in the end of 1794, possibly within the time specified for the delivery of the goats.

Whether the failure is to be attributed to this circumstance, or the want of faith on the part of the people he employed I am ignorant, but it is not improbable that the last may have been the true cause, as they are noted for imposition, and it appears to me that the success of any future attempt to procure these goats by this rout, will greatly depend on the person so employed, having been resident for some time among these people and having some knowledge of them.

The above is the whole of what I could collect on this subject, during two voyages to Bussora, and a short stay there; I shall feel myself singularly happy if you can derive any advantage from it.

A. H. BOGLE.

*Ship Swift, Madras Roads, July 18th, 1795.*

## To JAMES ANDERSON, Esq.

THE pleasure I feel in giving any information that may give you satisfaction with regard to the business I am engaged in makes me lose no time in transmitting the inclosed, which is a copy of an advertisement to be immediately circulated by me in Malabars, amongst the inhabitants.

BOSWALL PARKISON.

*Vellout, July 10th, 1795.*

## To the AUMILDARS, RENTERS, NATAWARS and VILLAGE PEOPLE, of the SAUTMAGANS POONOOMALDEE, and TRIPASSORE DISTRICTS.

AT the Honorable Company's plantations at Vellour and Trivalore, the silk worms with leaves, and every other requisite is now ready to commence the silk business, therefore Mr. Parkison, superintendant of the Honorable Company's plantations informs

informs the Aumildars, Renters, Natawars, and Inhabitants, that he will let them have silk worm eggs with every thing necessary for rearing worms as in the Honorable Company's silk-worm house (viz.) matts, bamboes, and knives, with leaves &c. from the plantation at Vellout and Trivalore, without charging one cash, and any inhabitants who will employ eight hands on this business shall have a clever man to teach them, who will be paid without their being at any charge on his account, but the rearing the worms is very easy and may soon be learned, for it is done in Bengal by women and children.

When the worms come out of the eggs they require to be fed four times in the day, and three times in the night for 24 days, after which they begin to make cacoons, when there is no more trouble with them; in a few days more the cacoons will be ready for sale, and immediately upon their being brought to the company's filature at Trivalore or Vellout, ready money will be paid for them.

Two moths from the two cacoons, should give 350 eggs, and each egg a worm, so that only 600 cacoons need be kept for breeding, by whoever wishes to rear 100,000 worms, that will bring them 200 fanams, if they take leaves from the Company's plantations, or 333 fanams, if by cultivating the mulberry, on their own account, they provide leaves for their worms.

When the cacoons are brought for sale, one fanam will be paid for every 500, at the same time that leaves and every requisite is given, without making any charge, and those who produce the first cacoons, will be entitled to a present from the Honourable Company, and their names shall be reported to the Collector, and the Board of Revenue for their favor.

Whoever will plant the mulberry for leaves, and feed their own worms, shall have for only 300 cacoons one fanam, and to put it in the power of those who may wish to avail themselves of so great an advantage, they shall on giving proper security have a sum of money advanced them to make plantations, that they may be enabled to provide their own leaves.

## To DOCTOR ANDERSON, P. G.

AS Mr. Lyte prefers the trying his fortune in the Barramahl I shall entertain hopes, that something will be done at last, towards the introducing in it the more valuable productions and manufactures, by which we may expect with more certainty than by any other means, it will become a richer country.

I have the pleasure to inform you, that my assistants, Messrs. Macleod and Monro, propose likewise to embark in the same laudable scheme, if our superiors approve. They have applied for a farm to the Southward, about sixty miles W. by N. of Trichinopoly, and if granted, I shall ask for one, if it only appears eligible on consideration, in one of the eastern districts of the Barramahl, probably within one hundred and fifty W. of Madras.

I reckon, that should our speculation turn out half so well as may be expected, there will always be people ready to take it off our hands when we quit our situation, for the difficulty of a work of this kind is only at the beginning.

Indeed I shall not be disappointed if I save myself, and shall only care on account of the failure of it, if I should be some pounds out of pocket, for though I have not yet shown any public spirit to boast of, my main object in this business, is the good of my country.

As portending something very favorable to our views, I must inform you, that I have this morning received officially from the Board of Trade, through the Commercial Resident at Salim, two packages, containing two samples of Ganjam sugar and several of Indigo, from different places on the Coast, with labels on each informing the price, but what is extraordinary, no intimation of the purpose for which they are sent, possibly it has been resolved to try the experiment I recommended, of holding out a certain market for those commodities.

That would assuredly answer; and if it be the case, you may expect to see, and that in a short period, plantations rising in every district.—The Company would then get as much as they want of them without risk, and the culture of them would be the care and the advantage of the individual.

The drudgery of my employ preventing my researches into the nature of the soil, I must be contented with ascertaining the properties of the weather, which may be of some use in husbandry, and to this end have begun a diary lately.

By the help of our rude artificers here, I have made shift to construct an Hygrometer with thin paper, which proves sufficiently susceptible of change in the air, and an Ærometer which shews the velocity and direction of the wind with great exactness.

Having bought a Thermometer and water-gage, all I want to complete my apparatus is a Barmometer, which I have long been in quest of, this account therefore is from the hope that you will try what you can in procuring one for me.

Possibly

Possibly I may hereafter have matters to communicate more interesting to you, but the constant rotine of Revenue Business, is a bar to much being done in the way of improvement in my time, you may however, if Mr. Lyte be diligent, receive gratification from his endeavours, should he try the line you propose.

A. READ.

*July 16th, 1795.*

## To MR. BOSWALL PARKISON.

I AM favored with your letter of the 10th, enclosing copy of your Malabar advertisement, which, although a proof of your attention that will always do you credit, yet until administration adopt measures very different from a continued pressure for encrease of revenue; neither this nor any other new manufacture can possibly flourish as they ought; and the old will go to decay.

JAMES ANDERSON.

*Fort St. George, July 28th, 1795.*

## To SIR GEORGE YOUNG, BART. LONDON.

I AM favored with your letter of January 14th, reccommending the pruning of the Mulberry, and an attention to the culture of Spices, which I have perused with much satisfaction; having found by experience, that the best leaves are obtained from the Mulberry, by cutting it off at the height of six inches from the ground every six months.

This part of the country, however, appears to me to be under the influence of too dry an atmosphere the greatest part of the year, for plants which are natives of the islands like the Spices—the Cinnamon indeed, continues to flourish astonishingly at Palamcotta, and will no doubt succeed in the interior of the country amongst the Hills, but the level country near the Coast, is too dry and too hot.

The improvements I introduced have been nearly at a stand, ever since it appeared, that four shillings an acre would be expected for waste land, when brought under cultivation.

I am still however much gratified, and flattered by the attention of persons like yourself, possessed of adequate knowledge on such subjects.

JAMES ANDERSON.

*Fort St. George, August 3d, 1795.*

## To JAMES ANDERSON, Esq.

ENCLOSED is copy of my last letter to Mr. Place, on the subject of rearing silk worms, in which I have given him

my sentiments on the business, and what I say to him about its being very capable of being carried on with advantage to the Company and individuals, is the result of a series of remarks and calculations made to the best of my judgment.

By a man whom I sent about with the advertisements, to whom I gave private directions to take notice of what remarks the people he gave them to might make, I am informed the grand objection is made to the care of the worms in the night, and if I may judge from experience it will be a great obstacle, for sleep is too great an indulgence to them to be broken in upon, by any thing less than absolute necessity, and it strikes me that so long as they think it is requisite it will be a great hinderance, I therefore intend to make trial of feeding the worms at 10 P. M. and 5 A. M. but in the day time as usual, and if I find the worms can be brought to perfection in that way to give general notice of it.

I have to apologize for not before this acknowledging the great apparent improvement in your mode of feeding the worms now adopted.

BOSWALL PARKISON.

*Vellout, August 6th, 1795.*

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## To LIONEL PLACE, Esquire,

### Collector of the Honorable Company's Jaghire,

THE 25th instant, I forwarded to you a copy of an advertisement for the purpose of introducing the culture of the mulberry and silk worms amongst the natives, also some Malabar translations, but have not yet circulated any, as it does not appear to me proper to require the hamildars, to do so without your particular directions, and with regard to the inhabitants, I wish to know if I may without any reference to the hamildars, &c. acquaint the village people with the contents of the advertisement, as from circumstances it may appear to me most likely to attain the end proposed.

I have this day received a letter from the Board of Revenue desiring me to apply to you, for your aid in promulgating, and rendering the advertisement fully understood by the natives, in all parts of the country, as I mentioned in my last.

I not only look to you for this, but in short for the entire success of the business; the utmost of my exertions, must necessarily be so confined, even for the efficiency of them I must depend upon you.

I have reason to apprehend the existence of the undertaking, on this part of the Coast depends on the introducing of it amongst the natives, and I dare say it may not surprise you, who must be so well acquainted with them to find a business at least so far as I can judge, very capable of being carried on with advantage to the Company and individuals fail, from the worms being reared by people in monthly pay, if you consider, how differently they act, when their own immediate interest is at stake, and when working for another; this I have hourly experience of, and from remarks made by Mr. Corbet, on the silk business that has been so long carried on in Bengal, it appears that rearing worms in the present plan is attended with certain loss, from no other cause I can see, but what I have mentioned.

These reasons are to me, Sir, evidently the source of the want of success; and they make me anxious to get the natives to take it up.

BOSWALL PARKISON.

*Vellout, July 28th, 1795.*

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## To Mr. BOSWALL PARKISON,

I AM favored with your letter, inclosing a copy of that to Mr. Place, to whom the Revenue Board have referred you, and am satisfied that your letter contains the most adequate idea as the people will be more readily influenced by an immediate reward, than by any kind of authority, and therefore a little trouble and expence by you to get some housekeepers in every village in your neighbourhood, to undertake the keeping of a few worms will effect more than the interference of renters or aumildars, whom they will suspect of loading them with new labours.

You might encourage them to begin by defraying the expence of erecting huts, for sheltering the worms in all the neighbouring villages, where any of the people will come into your plan, and the Revenue Board must be sensible, that so grand, and so new an undertaking will be attended with unforeseen expences, to render it of that utility of which it is susceptible.

If the worms are fed four times in the day regularly they will thrive very well by feeding them at 10 at night and 5 in the morning, as you mention; which removes the objection about sleeping in the night.

As the practice of rearing worms at their own houses by the villagers, and distributing plants, is all that is wanted to compleat the intention of your establishment, I am of opinion it would be worth your while to supply any of the village people you can persuade

persuade to begin the undertaking with leaves, &c. &c. by sending them to them, without putting them to the trouble of coming for them, and when once they are fairly begun you will find they necessarily go on, as the advantages resulting will defray the expence of new wants, which all mortals have when the means are in their power, and the thing as necessarily becomes a habit as their present habits.

JAS. ANDERSON.

*Fort St. George, August 7th,* 1795.

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## To JAMES ANDERSON, Esq. P. G.

I WAS favored with your publication respecting the culture of the native nopal for rearing the American Cochineal, and have the pleasure to acquaint you, that I some days ago commenced planting it all round this plantation; a line of about two miles, which will answer two essential purposes, a fence and a nursery for the cochineal insect.

I am happy to tell you that the silk worms here are much improved, after a temporary sickness, owing as I suppose to feeding them on leaves that were too old, which I was under the necessity of pulling to bring on a new crop, and I have now brought the worms to a daily succession, otherwise I could not manage them here as in Bengal in periodical bunds, for reasons you must be well acquainted with.

A BLACKADDER.

*Mulberry Plantation, near Poonamallee, August 13th,* 1795.

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## To DOCTOR ANDERSON, &c. &c.

BY the general orders which I have this day received from Sir Robert Abercrombie I have the pleasure to inform you, that your friend Captain Neilson is appointed to the 74th Regiment, vice Aubrey.

JAMES ROBERTSON.

*8th August,* 1795.

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## TO DOCTOR ANDERSON, P. G.

I AM this day favored with a small publication on the Cochineal insect, and feel much pleasure at the prospect of your endeavours to introduce it in the country being at last crowned with success: your letter in the Courier two months ago, intimating the arrival of the insect in Bengal, attracted my notice, and I would at that time have wrote you a few lines to offer my services,

in

in the cultivation of the nopal here, but a ſevere indiſpoſition which ſeized me ſoon after my arrival prevented me doing myſelf that pleaſure.

As far as I can judge of the climate of Dindigul it is more temperate than many parts of the coaſt, the land winds which prevail at this ſeaſon of the year although at times boiſterous, are never hot, and being ſituated nearly midway between the two Coaſts, it ſeems to partake of both monſoons, the weather has been cool and pleaſant for theſe two months paſt, with frequent rains.

If you ſee that I can be uſeful I beg, that you will command my ſervices.

GEORGE WILSON.

*Dindigul, Auguſt, 8th, 1795.*

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## To JAMES ANDERSON, Esq. P. G.

I HAVE the honor to acknowledge the receipt of your laſt publication about the importation of the American Cochineal, and muſt beg leave to offer you my beſt congratulations on the ſubject of ſo much importance.

If I miſtake not, in the year 1787 you ſent to Doctor Turing, ſome prickley Nopals which have ſince thriven ſo immenſely that this Fort and Petta are full of them.

I have alſo planted a good quantity in my garden, beſides three kinds of opuntia, that the late Doctor Binny was ſo obliging to give me.

My plantation of mulberries ſince have fallen away on account of the hedge not being ſufficient to protect them from cattle, however I have many mulberry plants remaining as many as to enable me to keep the breed of white ſilk worms which I ſtill preſerve.

Some time in laſt month Captain Robert Mackay, honored me with a call, when I ſhewed him my worms, and he wiſhed that I ſhould keep the breed till ſuch time as he would return to Hydrabad, he enquired alſo for the yellow ſilk worms, but having had the misfortune in June was a twelvemonth to loſe that breed, if it would not be taking up too much of your time, and you have it in your power to ſpare a few eggs of that kind, I ſhould be very thankful for the favor of them.

CHARLES FREEMAN.

*Maſulipatam, Auguſt 7th, 1795.*

To

## To DOCTOR ANDERSON, P. G.

I WITH pleasure acknowledge the receipt of your publication upon the subject of the introduction of Cochineal insects from America, a circumstance which I am extremely happy to hear of, knowing that you have long wished to accomplish that end.

The culture of Cochineal in the Honorable Company's territories, must certainly become in the course of a very short time, a lucrative article in their trade, and also give employment to many of the needy natives.

I planted the different kinds of nopals which Doctor Berry was so good as to send me some time ago, and they seem to grow very well.

I am glad to hear that the insects adhere to the nopal which gives the yellow flowers, as there is plenty of it in every part of this neighbourhood, it has not near so many prickles as some of the other species of opuntia have, which will be a great advantage in collecting the insects, I therefore mean to make a plantation of it immediately.

SAMUEL MAC MORRICE.

*Salem, 9th August, 1795.*

## To Mr. MAC MORRICE,
### ASSISTANT SURGEON at SALIM,

I AM favored with your letter acknowledging the receipt of my publication of the importation of American Cochineal, and as you seem desirous of extending its cultivation I would advise you to get a small spot of ground, 100 feet square will be enough to begin with, that is well sheltered from winds, and plant it with the yellow flowered naga calli at an interval of five feet distance between the plants, and as soon as you acquaint me that they have taken to the ground I will desire Doctor Berry to forward you a breed of the insects.,

JAMES ANDERSON.

*Fort St. George, August 17th, 1795.*

## To CAPTAIN ALEXANDER READ,
### COLLECTOR OF BARAMALL AT KISTNAGURRY.

MR. LYTE'S illness having been of such a nature as to require a regimen and course of medicine for its removal, has prevented my being able to forward him to you as I promised, but this will prove no disadvantage to your laudable views of disseminating a knowledge of valuable improvements in the country,

try, as he is by his ſtay here acquiring the management of Cochineal, which of all things is the moſt worthy your attention.

In the Botanical Garden at Calcutta they have a thouſand Plants covered with the inſect, enough to ſtock all India immediately: many gentleman there are laying out plantations, and Doctor Roxburgh iſſuing a breed to every part of the country.

Doctor Berry is likewiſe already able to do the ſame here, having ſeveral plants covered with them, as well at Marmalon as in my garden, both in a ſheltered and expoſed ſituation, in a thriving way, as it appears, by experience, both here and in Bengal, that even heavy rains do them little injury.

The beſt way to begin the management of them I ſhould imagine, would be to plant ſmall ſpots that are ſheltered from winds, in the village gardens, with the common opuntia called by the Tamuls Naga Calli which is the only plant they are found to live on, and that which I firſt cultivated and diſtributed over the Country for this purpoſe in 1787, and to avoid any impediment of expence; I could wiſh that the ſpots of ground, do not exceed 50 or 60 feet ſquare, which will contain 100 plants, at 5 feet diſtance one plant from another; and after a knowledge of the management is acquired, may be extended at pleaſure.

JAMES ANDERSON.

*Fort St. George, Auguſt 20th, 1795.*

## To DOCTOR ANDERSON, P. G.

HAVING diſtributed all the baſtard cedar ſeeds you were ſo good to let me have, among the jaghire villages, and found the quantity inſufficient, I take the liberty of ſending a meſſenger who will take charge of as many more as you can ſpare.

LIONEL PLACE.

*Trimaſhee, Auguſt 10th, 1795.*

## To DOCTOR JAMES ANDERSON.

WITH the utmoſt pleaſure I received your note of this day, with the waiſtcoats and muſters, which delighted me much, ſeeing that by the happy induſtry of men, the progreſs of the woollen manufacture, through the laudable attention and patriotic zeal of Sir John Sinclair is gaining ground to the honor of its kingdom, and the convenience of the inhabitants thereof.

One of the waiſtcoats with gratitude I receive, and return the other herewith, and permit me to add, that with pleaſure I return both you and Sir John Sinclair, my ſincere thanks.

If it is not inconvenient to you, write for two pieces of the muſter that is not numbered, and has green flowers. The value thereof I will chearfully pay, and by doing ſo you will much oblige

SHAMIR SULTAUN.

*Madras, 20th Auguſt, 1795.*

## To the Hon. EDWARD SAUNDERS, Esq. acting governor, and council.

I HAVE the pleaſure to ſend you herewith, two parcels of ſilk, amounting to nine pounds nearly, which I have received from Abdul Wahab Cawn Bahader, to be tranſmitted to the Honorable Court of Directors, and which I truſt you will readily tranſmit, in teſtimony of the ſolicitude ſome of the Princes here, have ſhewn to the ſucceſs of this laudable undertaking; eſpecially Abdul Wahab Cawn, as this ſilk is the produce of his Jaghire of Chittore.

You may likewiſe acquaint the Honorable Court, that the ſilk reel, which they did me the honor to tranſmit, through the channel of government, having been placed in my filature, was found to poſſeſs no principle of advantage ſuperior to the reel of Vaucanſon, and that on account of the want of velocity, it has been ſet aſide.

It may not be improper, likewiſe, to acquaint the Honorable Court, by the firſt diſpatch, that the ſilk manufacture, and the culture of Cochineal, of which we are now in poſſeſſion, and for both of which, the climate and genius of the people are better adapted, than in any other part of the world, are arreſted in their progreſs by a value being put upon waſte land: the expence of bringing which under cultivation, is at all times ſo great, that few will attempt it, without immunities, privileges and countenance.

JAMES ANDERSON.

*Fort St. George, Auguſt 20th, 1795.*

## To JAMES ANDERSON, Esquire.

HAVING been up the country, for this month paſt, has prevented me from ſooner acknowledging your much eſteemed favor of the 1ſt ultimo.

The

The friendly steps you have taken to promote my interests, shall ever have my warmest and most sincere thanks, and I am happy to inform you my exchange into the 74th regiment has taken place, and that I mean to take the first opportunity of joining it, and will probably have the pleasure of paying my respects to you on my way to Pondicherry.

I was particularly happy to hear that the species of nopal the Cochineal feeds upon, grows in such abundance all over the Carnatic, in my late trip up the river I found it growing in great abundance to the height of 9 or 10 feet, and with very few prickles on the leaves, which is a great advantage, as the insect is easier taken off.

I was down yesterday at the Company's Garden, where I found Mr. Smith, who has charge of it, has about 1000 fine plants covered with the insects; there is now enough to stock all India, and as Mr. Smith is indefatigable in planting, there will soon be enough to spare, for any experiments that may be wished, to ascertain the quality of the dye.

I was particularly happy to find that many of the insects, which were placed six weeks ago on plants in the garden, and exposed to the weather, notwithstanding there has been a good deal of heavy rain, have had a progeny, and that neither the young nor old appear to have been the least injured by the exposure.

I hope you received the plants and insects, Dr. Roxburgh sent you sometime ago, and that they are succeeding, I intend bringing you a fresh supply, and have no doubt of seeing in a very few months the plant and insect an object of cultivation over all the Carnatic, which I am inclined to think a more favorable climate for it than that of Bengal; I now enclose for your perusal a copy of a letter I have been honored with from the Governor General in Council, it is very flattering, and contains every thing that can be wished.

Great numbers of gentleman in Bengal have already begun nopal plantations, and Doctor Roxburgh, has sent the insect to different parts of the country.

R. NEILSON.

*Fort William, August 3d, 1795.*

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## To CAPTAIN NEILSON.

DOCTOR ROXBURGH, the superintendant of the Company's Botanical establishment, has acquainted the Governor General in Council that you have delivered to him a number of cochineal insects, &c. procured at *Rio Janiero.*—The value of

the preſent can only be aſcertained by experience, but whatever that may prove, the Governor General in Council has directed me to requeſt your acceptance of his thanks, and acknowledgements for your endeavors, and attention to open a new ſource of commercial emolument for the Country and the Company.

The Governor General truſts that neither his nor your expectations of the advantages to be derived from your exertions will be diſappointed, and in this expectation it will afford him particular ſatisfaction to inform the Honourable Court of Directors, that a valuable article of commerce has been introduced into this country by your means, and to recommend a remuneration in proportion to its importance.

I am further directed to add, that Doctor Roxburgh has received directions to accommodate you with a ſupply of the inſects and plants, if you ſhould wiſh to have them.

E. HAY, SEC. TO THE GOVERNMENT.

*Council Chamber, June 29th, 1795.*

## TO DOCTOR JAMES ANDERSON, PHYSICIAN GENERAL.

SIR,

I HAVE the honor of herewith tranſmitting to you a copy of the report forwarded to Government on the Cochineal inſects you delivered to my charge, which from thriving ſo well offer every proſpect of extenſive benefit to the country, the object of your views.

ANDREW BERRY,
SUPERINTENDANT HON. COM. NOPALRY.

*Fort St. George, Auguſt 27th, 1795.*

## TO THE RIGHT HONORABLE LORD HOBART, GOVERNOR IN COUNCIL.

MY LORD,

I HAVE delayed till now reporting on the Cochineal inſects, which Doctor Anderſon informed Government, on the 22d ultimo, he had delivered to my charge, that the inſects having gone through all their ſtages, I might ſpeak with ſome degree of certainty as to the ſucceſs of their culture here, and with pleaſure I can ſay, that the climate ſeems moſt congenial, that they have thriven in all ſituations, both ſheltered and expoſed, even to the direct rays of the ſun, and to wind and weather, and encountered during the ſhort time they have been here as bad weather for

for them, as can happen except during the monſoon, ſtrong wind accompanied with heavy falls of rain.

The inſect too has come to its full growth and produced young even in ſhorter time than was found in Bengal, having placed young inſects on the country nopal on the 28th ultimo, which on the 24th inſtant produced a new progeny; this quick growth, more than double what happens in Mexico, its hardineſs and numerous iſſue, with the facility that the nopal, on which it thrives, is reared, and the great abundance this plant is now in on every part of the Coaſt, ſince Doctor Anderſon firſt called an attention to it in 1787, afford every inducement to an extenſive and ſpeedy cultivation.

I have now above 100 plants of the country nopal in the garden, and ſeveral in the Choultry in pots, with inſects placed on them, and can have no heſitation in ſaying that by this time next month, there will be ſufficient to carry their culture to any extent, and even now I ſhould be happy to ſend a breed to whomever may be induced to rear them.

Having hitherto cultivated a variety of foreign nopals for this purpoſe, on all of which I have alſo experienced the ſame want of ſucceſs in rearing the inſects that Captain Neilſon, and Doctor Roxburgh did, and that the country nopal firſt cultivated, as being common and conſidered leſs valuable had been thrown out, I am now employed planting the country nopals in their room, and intend only keeping a portion of the Kew nopal in the garden, as this plant is undoubtedly what the fine cochineal is reared upon, and which from this fortunate commencement may alſo be expected; but independant of this the young leaves of the Kew nopal, are the beſt ſucculent and wholeſome vegetable, that can be carried to ſea, and will remain good for many months, and of which Commodore Rainier has had ſeveral ſupplies, many Captains of Indiamen and others, who have acknowledged its utility. —I have already tranſplanted about 2000 rooted country nopals, and placed them 6 feet aſunder, and in a ſhort time more will have 5000, and I am interſecting the fields with hedges of odina (wodier) branches encloſing nearly every 100 plants, as Doctor Anderſon thinks it of great value as a fence almoſt immediately formed, eaſily procured, of quick growth, and that will live in every ſoil.

Having told your Lordſhip that the inſects have thriven in every ſituation, I muſt however obſerve, that they have been moſt numerous when ſheltered in ſome degree from the wind and direct rays of the ſun, for which purpoſes odina fences and ſlight pandalls

dalls of cocoa-nut or palmira leaves, sufficient also to keep off any sudden fall of rain, will answer, and with these there can be no doubt the insects may be as numerous on each plant as is thought proper.—as they never can be cultivated to any extent if allowed to remain on the same plants, they are what is termed sown, that is, two or more females full grown are placed according to the size of the plants, at the divisions of the branches, in the most favorable situation for the young insects to spread over them, in bags, the corners being tied together, of 2 inch square pieces, of the fibrous covering of the stems of cocoa-nut leaves, the parenchyma of which has been destroyed by the weather, leaving only a network of the fibres, that the young may be able to pass freely through them, these females must be taken as soon as any young appear;—or what I have found answer very well, when a leaf of a nopal can be spared, is to cut it into pieces according to the number of females adhering, and with the thorns of the plant fix these pieces wherever they may be wished; when this is done, the only other attention that is required is to keep the ground clean about the roots of the plants to drive away vermin, and perhaps water the plants a little till young again appear, when such females as are wanted for breeding are without loss of time placed on fresh plants as before described, and the remainder of the insects gathered also as quickly as possible, and plunged into boiling water between two cloths, till the water covers the whole, when they are taken out and dried in the sun and then are fit for the market; the quicker all this is done the better, for the young constituting the finest colouring part, if they are allowed to escape, they cannot be collected, and the mothers become of little value, soon nothing but an empty husk; the plants are then washed and cleared of insects, and allowed to recruit for a month or two, for a succession of many insects on one plant will certainly destroy it. What is farther considered necessary, is to have plants in pots or boxes under cover or in places that can be covered, to preserve a breed from heavy falls of rain and in wet weather, I have now therefore and shall always have in the choultry, the only cover at the nopalry, a sufficient number of plants in pots for this purpose, so that they may be distributed at any time.

Having thus stated to your Lordship all regarding the culture of the insects that occurs to me, and what I have been doing, it may be only proper to add in respect to its intrinsic value, and value to this country, that the dye of the silvester cochineal, which this is, is by no means inferior to the grana fina, and is only of less value about one third, from the silky co-

vering

vering which adding to its weight makes equal parts not equally colouring, but this covering renders it more easily reared and a more certain produce than the other, so that in Mexico it is the principal culture of the poor, requiring no stock, and but few hands to earn a subsistence on frequently the worst ground, and employing only the feeble and old, women and children.

I am, MY LORD, &c.

ANDREW BERRY.

*Fort St. George, August 26th,* 1795.

## To DOCTOR ANDERSON, MADRAS.

THE favor of your letter was received, and laid before the Board of Agriculture who expressed themselves much pleased with your communication, and having requested me to convey you their thanks, I take the earliest opportunity of doing so with pleasure.

Your continuing to communicate any thing interesting to the cultivation of our Indian territories will be gratifying to the Board, who are extremely sensible of the advantage to be derived from such assistance as yours, in the measures they are now pursuing.

JOHN SINCLAIR.

*Board of Agriculture, Whitehall, London, March 10th,* 1795.

## To SIR JOHN SINCLAIR, BART.

PRESIDENT OF THE BOARD OF AGRICULTURE, LONDON.

I HAVE the pleasure to inclose a letter from Shamir Sultaun, Esq, acknowledging the receipt of a vest of the new manufacture which arrived here on the Lord Thurlow, where by I am enabled to thank you for a similar mark of attention to myself.

The sentiments of the Board of Agriculture, conveyed in the hand writing of their President, I consider a great honor, and I shall be happy if any thing in my power can promote their laudable intentions of public welfare.

At present however, there is nothing I can recommend to your notice, except a letter from Mr. Bogle, surgeon of the Honorable Company's Bombay ship the Swift, in which if there appears any new information, you will do me the favor to lay it before the Board.

The Right Honourable the Governor here, has been so good as to receive the questions for agricultural surveys, you did me the

honor

honor to encloſe, and will no doubt exert the moſt effectual means to render them of uſe, as moſt of the queſtions can be anſwered immediately by the village writers, an immemorial eſtabliſhment of record in every village in Hindoſtan.

JAS. ANDERSON.

*Fort St. George, September 10th, 1795.*

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## *QUERIES.*

PROPOSED BY THE

## BOARD OF AGRICULTURE;

### *To be Anſwered by Intelligent Farmers.*

1.—What is the nature of the ſoil and climate in your neighbourhood?

2.—The manner in which the land is occupied, and whether the farms are, in general, ſmall or great?

3.—The manner in which the land is employed, whether, in paſture, in huſbandry, or a mixture of both?

4.—If in paſture, what graſſes are cultivated, what ſpecies of ſtock is kept; Whether the breeds can be improved, or whether new breeds ought to be tried?

5.—Whether any of the land is watered, and whether any conſiderable extent of ground is capable of that improvement?

6.—If the land is employed in Huſbandry, what are the grains principally cultivated?

7.—What is the rotation of crops, and in particular whether green crops, as turnips, clover, &c. are cultivated, and how they are found to anſwer?

8.—Whether fallowing is practiſed or otherwiſe?

9.—What manures are made uſe of, and whether particular attention is paid to the making of dunghills?

10.—What are the uſual ſort of ploughs, carts and other implements of huſbandry?

11.—Whether oxen or horſes are made uſe of?

12.—What is the uſual ſeed time and harveſt?

13.—Whether the land is incloſed or in open field?

14.—What advantages have been found to reſult from incloſing land, in regard to the increaſe of rent.—quantity or qualities of produce—improvement of Stock, &c.?

15.—What is the ſize and nature of the incloſures?

16.—Whether incloſures have increaſed or decreaſed population?

17.—Whether

27.—Whether there are any common fields, and whether any diviſion of them is propoſed?

18.—What is the extent of waſte lands, and in what manner are they at preſent depaſtured?

19.—Of what improvement are thoſe waſte lands moſt capable, whether by being planted, converted into arable, or into paſture land, or by correcting the preſent mode of commonage?

20.—What is the rate of wages, and price of labour, by the day or the piece, and what are the hours at which labour commences and ceaſes, at the different ſeaſons?

21.—Whether proper attention is paid to the draining of land, particularly the fenny part of it, and what ſorts of drains are commonly made uſe of?

22.—Whether paring and burning is practiſed, and how is it managed and found to anſwer?

23.—Whether the country is well wooded, and under what ſyſtem are the woodlands kept?

24.—What is the Price of Proviſions, and whether the price is likely to be ſteady, to riſe or to fall?

25.—What is the ſtate of the roads both publick and parochial, whether they are in good order, and whether any improvements in regard to making roads have been diſcovered?

26.—What is the ſtate of farm houſes and offices, whether in general they are well ſituated and properly conſtructed?

27.—What is the nature of the leaſes commonly granted, and what are found to be the moſt advantageous convenants between the landlord and tenant, for the improvement of the ground?

28.—To what extent have commerce or manufactures been carried on in the diſtrict, and have they had either good or bad effects on its agriculture?

29.—Are there any practices in agriculture within the Country that could be of ſervice to other countries?

30.—Are there any ſocieties inſtituted in the country, for the improvement of Agriculture?

31.—Whether the People ſeem to have a turn for improvement, or how ſuch a ſpirit could be beſt excited?

32.—What improvements can be ſuggeſted either in regard to the ſtock or the huſbandry of the Country?

33.—What are the ſituations, and nature of the ſoil; where the Rot in Sheep is the moſt prevalent?

34.—What are the ſorts of Herbage produced from theſe lands?

35.—Have any means been used to cultivate any of such lands, to prevant the rot, and what have been practised?

36.—What is the nature of the soil and herbage, where the Sheep took rot last winter, and where they never were known to rot before?

37.—Are those lands old sward, or sown with seeds, or both?

38.—Are there any obstacles to improvements, and in what manner can they best be removed?

## To DOCTOR ANDERSON, MADRAS.

I HAVE the pleasure of yours of October, and find you going on actively as ever. I am just delivered of a ponderous work, and have put a copy under the care of Mr. Gazeley, of which I beg your acceptance.

This has taken up so much of my time, that I have hardly been able to think of any thing else: I observe that Roxburgh is gone to Bengal, and expect soon to hear of his determination about returning to the Coast.

I hear that a proper gardiner is going out from hence, a specimen of engravings made from Roxburgh's drawings, will be given to the Court of Directors in a few days, together with a plan for their publication, agreeably to the scheme which I proposed to your Board when I was in India, if the Directors persist in their resolution, the work will be a splendid one.

The reviews contain accounts of all philosophical books; but politics take up the attention of every one—I am just setting out for the country.

PATRICK RUSSELL.

*London, July 18, 1795.*

## To DOCTOR ANDERSON. P. G.

YOU gratify me highly, in supposing I may be any way serviceable in promoting the useful arts, I shall certainly aim at it in whatever comes recommended from you.

No doubt you will think it advisable to colonise your red-coat family in many stations, so as to prevent risking the loss of the species by any partial accident, and perhaps it might not be improper to mix some plants of the Kew nopal or other innosensive sort, with the naga calli, with the intention of affording the insect an opportunity of taking to it if they will.

The

The naga calli shall be planted here as you direct, immediately: I suppose it will be necessary to wait their vegetation before you send me any of the Cochineal insects, and if you think it proper, I request you will also send some of the innoffensive nopal.

I have made enquiry, and am informed there are three sorts of nopals common here.

JOHN FLOYD.

*Trichinopoly, 28th August, 1795.*

## TO DOCTOR ANDERSON, P. G.

*Condapilly, August 27th, 1795.*

I RETURN you my sincere thanks for the account of the Cochineal insects you were so good as to send me some time ago, which I should have acknowledged sooner but have been much indisposed with sore eyes, a disease very common here at present.

A great deal of this valley laying waste might with little trouble or expence be employed in the cultivation of the opuntia, indeed it seems fit for little else. I have no doubt, were Government to give the smallest encouragement to it, many people here would very soon be induced to cultivate the Cochineal, but without some attention from Government, they will not easily be brought to believe it a matter of any consequence.

If you will favor me with a few joints of the opuntia I will cultivate it myself, and do all I possibly can to make some of the more liberal part of the natives cultivate it also: probably if Government were to allow a small gratuity for every certain quantity of Cochineal manufactured by the natives, and taken in part payment of kists, it might prove a means of introducing the general cultivation of the little insect.

ROBERT GALLAWAY.

## To Mr. GALLOWAY, Assistant Surgeon, *at Condapilly.*

YOUR idea is so proper regarding the mode in which the Cochineal insects may be rendered productive that it demands my most sincere acknowledgements, and to assure you that by applying to Lieut. Freeman at Masulipatam you may obtain a supply of any number of plants that you may want, and I will take care that a breed of the insects are forwarded to you in due time.

The establishment of a Nopalry here having been made some years ago and now the compliance of Government with the orders

of the Honorable Court of Directors in defraying the expences I have incurred, leaves no room to doubt that much attention will be given to the improvements I have introduced, and as you juſtly obſerve, were Government to hold out the ſmalleſt incouragement to the people, many of them would very ſoon be induced to cultivate; as on the other hand without that countenance the people muſt imagine that my plans of induſtry are contrary to the views of Government.

JAMES ANDERSON.

*Fort St. George, September 2d, 1795.*

## To DOCTOR ANDERSON, MADRAS.

I BEG to acknowledge the favor of your tranſmitting me the account of the Cochineal inſect, together with Mr. Secretary Webbe's letter, with the extract of a letter from Canton under date 25th March, 1795; and farther to offer my congratulations on your ſucceſs with the nopal and its valuable little inſect, ſincerely hoping to ſee the annual ſilk worm of China added to the number of your achievements, ſince it is become a more deſirable object of attainment than ever from the grand project reſolved on and adopted by the Honorable Court of Directors, of which doubtleſs you are informed, namely the ordering that their beſt ſilks ſhould be wound fine enough to be converted by them into organzine, through the medium of our own mills at home; a plan which can never be proſecuted to the extent they have laid down, till ſuch time as we can improve their quality by encreaſing the ſtrength of the ſtaple.

The ſpecimens of raw ſilk I have with great pleaſure reported on from you, are very ſuperior in this reſpect to the ſilks the growth of Bengal; how deſirable therefore that the growth of this valuable article ſhould be encouraged with you! but be it remembered that although nothing is more eaſy than the making of fine threaded filature ſilk, yet as I have invariably endeavoured to ſhow the more fine, the leſs valuable, unleſs at the ſame time, made perfectly free from gouts, perfectly free from ends, and perfectly free from the fine waſte.

You feel how exceedingly we have to lament more than you, the little ſucceſs that hath hitherto attended, the application made to the ſupracargoes at your inſtance, as the fate of the few eggs ſent here by his Excellency Lord Macartney every one of which had been hatched before they reached me.

The ſilk produced both in Perſia and Turkey, are remarkable for their ſtrength of ſtaple; ſuffer me to ſuggeſt, that perhaps it

it would be no very difficult matter through your multifarious correspondents, to obtain the seed of these countries, the latter especially, through the intervention of Mr. Manesty at Bussora.

Two things have occurred to me, which I beg leave to suggest to you, from a tendency which you will probably find in them, to do away some of the difficulties you have unfortunately had to contend with in rearing the silk worm; It would seem that the great distance of Nankeen, from Canton, must have proved a great obstacle in the attempt of the Residents to procure the annual worm for you, there is no doubt the obtaining them from thence would more assuredly ascertain the real sort, since from climate they are not likely, to have any other than the annual worm.

But there is no reason why the annual worm should not be found in the Southern provinces, and whereas in Bengal, although the monthly worm be the principle object of cultivation, the annual is and may be occasionally met with, and very probably in the vicinity of Canton itself.

I suspect that the hot winds for the worm and the drought for the mulberry must have proved your most cruel enemies, and deprived you every now and then of a whole bund compleat.

Now suppose you were to confine your cultivation to the annual worm only you might choose your season, and by that means, be sure of success, for having cut and prepared your mulberry, you need not put your worms to hatch, till the moment you was assured of their keeping pace with each other.

The annual worm with us here is generally put to hatch about the begining of February, should you be disposed to try this, I will with great pleasure forward you some of the annual seed of this country.

JAS. FRUSHARD.

*Calcutta, August 17th and 18th.*

## TO THE RIGHT HONORABLE LORD HOBART, GOVERNOR IN COUNCIL.

MY LORD,

I HAVE the pleasure to inclose two letters from Mr. Frushard, regarding the best sort of annual silk worm, in hopes that your Lordship will see the expediency of directing copies of them to be forwarded by the first opportunity to the factory at Canton, and the government at Bombay, for the purpose of obtaining eggs of this breed, in the manner he has devised.

I have the honour to be, my Lord, &c.

JAMES ANDERSON.

*Fort St. George, September 3d, 1795.*

To

## To JAMES FRUSHARD, Esq.

I AM favoured with two letters from you, dated the 17th and 18th Ultimo, the contents of which appear so much to the purpose for procuring the most valuable kind of annual silk-worm, that I have recommended them to the attention of Government.

I am much obliged by your offer of sending me the annual silk worm of Bengal, but think it would be giving you unnecessary trouble, as two years care of them has now put me in possession of a sufficient stock.

The plan you mention of keeping this breed only, although it might prove advantageous, yet I think it would be hazardous to adopt it, lest the people should forget the business altogether in so long an interval, and the high character of the silk of our monthly worm, which sells in the market here at forty three pagodas the Madras maund, are weighty reasons for preserving it.

Notwithstanding what appears in my publications regarding the drying up of the eggs in the hot months, yet now by having them laid on mats, that have been covered over with Cow-dung, not an egg fails in the hot more than in the cold months, and in case the fields are watered once a fortnight, the produce of leaves is very abundant.

The only real difference I can observe is, that in the cold months, the cacoons and the leaves, are both of a larger size than in the hot and dry season, but the silk is stronger, as well as the leaves more consistent for their size in the latter season; and foul air, which is easily obviated, is the only enemy to the worms.

Upon the whole, although there may be some advantages resulting from the differences of heat and cold, moisture and dryness that will remain till such time as we get more experience, yet the great equality of the temperature of our atmosphere, the docility of the natives, and the superior strength of the produce, must certainly render the culture of silk here, an object of great importance.

To bring it into effect, I recommended that opulent natives should be encouraged to come forward, who could employ sufficient hands, that would otherwise remain idle, as the cultivation of grain which is the main object, lies in the hands of the villagers, and not amongst the inhabitants of towns; but as the few whom I had an opportunity of recommending, think they have been discouraged, it is likely that this valuable manufacture will make but slow, if any farther advances, beyond what it is at present.

It

It is still confined to the Company's plantation at Vellout, that of a Society of gentlemen at Poonoomallee, Permall at Voyalore, Rangapilly, at Adyar, Armogam at Coomungalum, and a plantation of the Honorable Company's at Ganjam, where the cheapness of labour, and fertility of the soil, as well as its vicinity to Bengal, are supposed to be favourable circumstances, whereas it has always been my wish and endeavour to place it in the hands of the natives at large, for which purpose I long ago recommended that an article to this intent should be inserted in the obligation bonds that were expected to have been granted about this time, but have reason to believe no proper notice has been taken, from a mistaken idea of the culture of Silk preventing the culture of grain:—there are likewise considerable plantations of mulberry at Chingleput, Guntoor, Chicacole, and Vizagapatam, lying useless.

Should it ever appear that government wish to promote this manufacture, there can be no doubt but that your annual Bengal worm may be introduced with advantage into parts of the country that from want of water are unfit for the monthly sort, as the mulberry when rooted, can survive a very long drought, and an universal verdure prevails immediately after the rains, the season at which the annual worm naturally hatches here.

JAS. ANDERSON.

*Fort St. George, September 4th,* 1795.

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## To the right honorable LORD HOBART, governor, in council.

MY LORD,

A SENSE of the numerous and important concerns of government, leaves me almost ashamed so frequently to trouble your Lordship, but having long observed that researches of this nature become useless, unless recommended to the notice of those who possess the springs of action, and believing that your Lordship is well disposed to promote every investigation connected with the public welfare, without farther taking up your Lordship's time with needless apologies, I shall proceed to state:

That the caoutchouc, elastic gum, or indian rubber, a substance now well known in Europe, as applicable to the improvement of many of the most necessary and useful arts, is the produce of the Eastern Islands, as well as of Guiana in America, from whence Europe has hitherto been supplied with this valuable substance.

My

My authority is a letter from Mr. Kincaid, at Prince of Wales's Island, dated August 21st, 1792, of which the following is an extract.

" The elastic gum as it is called, is found in these Islands, and the juice gathered and put in bottles, if kept excluded from the air will carry to England, some of it goes home in this ship from Mr. Light, to Mr. Dalrymple; if exposed to the air, it soon stiffens, and then is perfect caoutchouc, it is said to be the produce of a vine, but from what little I have been able to collect, the plant seems more of the reed kind, being as thick as a large bamboe."

In January last, I received a small quantity from Doctor Campbell, at Bencoolen, and this morning Mr. William Roebuck, delivered me a little he had procured in the following enclosure.

" I send you a specimen of the elastic gum, caoutchouc, found in the island of Pooloo Pinang, by the Surgeon of the Settlement; knowing your attention to subjects of this nature, and as I think it is a discovery that may be of advantage, I am happy to deliver it into your hands."

My intention in troubling you at this time is with a view to induce your Lordship to solicit the Supreme Government's attention to the subject, by recommending to the settlements of Bencoolen and Pooloo Pinang, the care and cultivation of the plants in their neighbourhood, and to embrace every opportunity of transmitting some of them to the botanical garden at Calcutta, as well as to this place.

I am, MY LORD, &c.

JAMES ANDERSON.

*September 5th*, 1795.

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## To JAMES ANDERSON, Esq. P. G.

I CANNOT resist the impulse of acquainting you, that I have succeeded in what I have been for some months attempting to acquire, that is a daily breed of silk-worms, and have at this moment thirty successions in high health, it is a most pleasing object to me, and I imagine it would give some satisfaction to you, to see the different gradations from the egg to the egg again all going forward at the same instant.

I have the honor to inform you that I have planted 5,000 large nopals since the begining of last month, most of them in great vi-

gor,

gor, throwing out a crop of new leaves, and some already bearing flowers, they will soon I think be able to feed the cochineal insect on, and hope you will indulge me with a breed.

A BLACKADDER.

*Mulberry Plantation, Poonamallee, September 4th,* 1795.

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## To The Right Honble. LORD HOBART, GOVERNOR, IN COUNCIL.

MY LORD,

IN support of the wishes of the Honorable Court of Directors for a silk manufacture, I have the pleasure to inclose a letter from Mr. Blackadder, expressing his success in bringing about a daily hatching of the worms, which as it must prove a great relief to the labour, as will as the supply of leaves, and security against losing the breed; I consider it of too much importance to be overlooked, and therefore recommend, that your Lordship will be pleased to direct a monthly salary sufficient for his maintenance, to enable him to prosecute his success.

I am, MY LORD, &c.

JAS. ANDERSON.

*Fort St. George, September 9th,* 1795.

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## To DOCTOR ANDERSON, P. G.

OBSERVING in the public Courier you direct such persons who wish to promote the culture of silk, to apply to you for eggs; you will greatly oblige me by allowing me a few, as we have a mulberry plantation at a very short distance from Vizagapatam, so that the feeding them will be attended with no inconvenience.

ROBERT WISSET.

*Vizagapatam, August 29th,* 1795.

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## To JAMES ANDERSON, Esquire, P. G.

I AM directed to acknowledge the receipt of your letter dated 20th ultimo, 3d and 5th instant.

The remarks of Mr. Frushard upon the best mode of procuring the annual silk-worm will according to your suggestion be

recommended to the gentlemen at Canton and Bombay, and a copy of your letter respecting the elastic gum of Sumatra and Pinang, has been submitted to the consideration of the Governor General in Council of Bengal.

The President in Council, is happy at the discovery made by Mr. Blackadder, and hopes that it will prove beneficial to his employers, but does not feel himself at liberty to incur on the Company's account, the monthly expence of the allowance which you have recommended, for that gentleman.

J. WEBBE, SECRETARY.

*Fort St. George, September 12th*, 1795.

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To JAMES ANDERSON, Esq. P. G.

AFTER hoping these few lines may find you in perfect health, I take this opportunity per favour of the dooly bearers to acquaint you that I have found Captain Read here, and have no occasion to go to Kistnagurry, therefore have sent the dooly back, for which I return you many thanks.

I have likewise the pleasure to inform you that I have got the Cochineal insects safe up, and Captain Read, seems to be very proud of them; I believe that to day we shall look out for plants, and make ready for placing out the insects as soon as they may be fit.

EYRE W. LYTE.

*Trippatore, in Baramall, 13th Sept.* 1795.

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